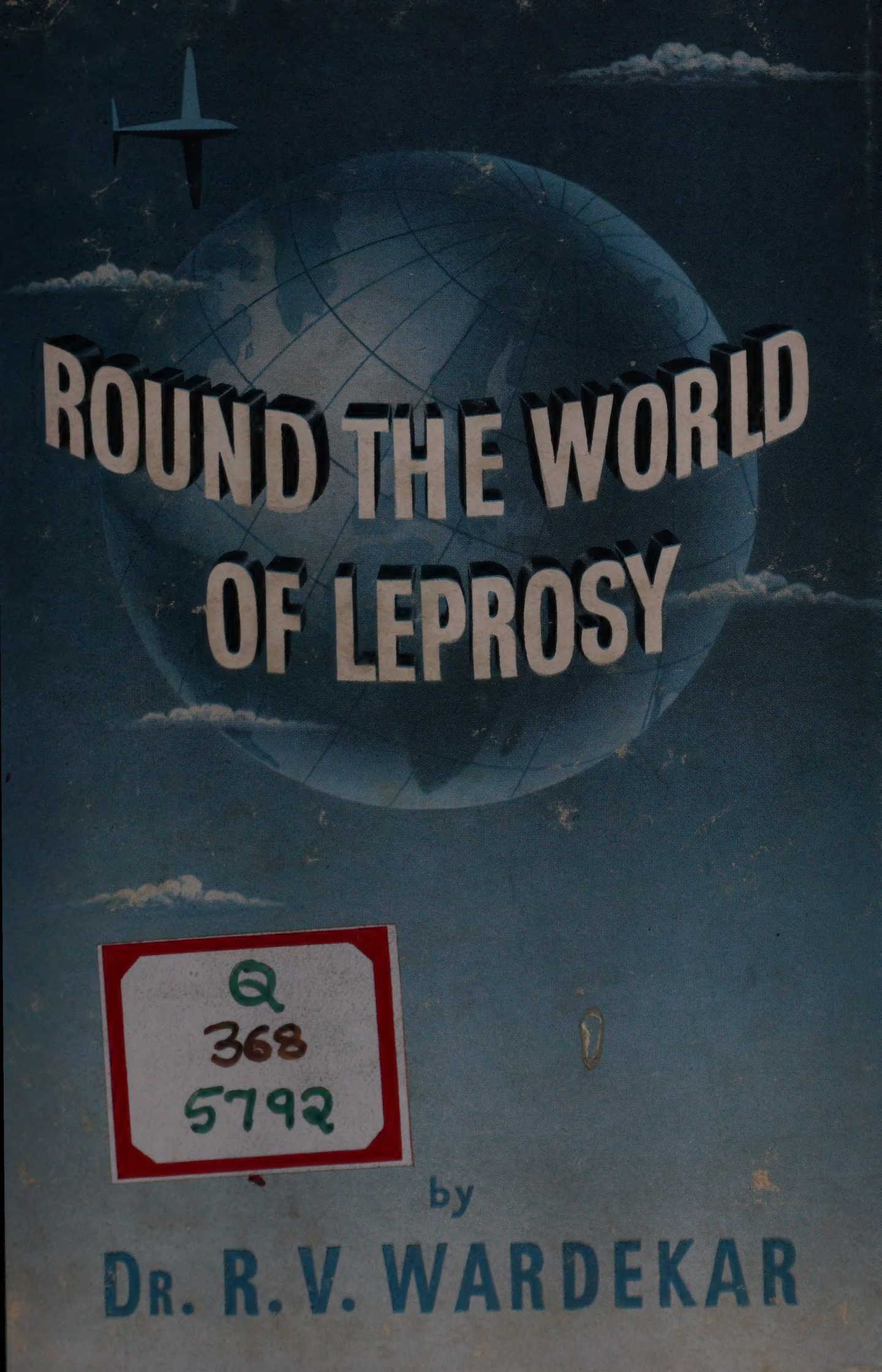
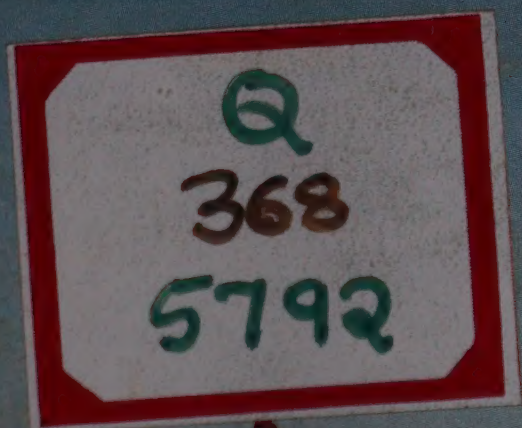




ROUND THE WORLD OF LEPROSY



by

DR. R. V. WARDEKAR

About the Book

The author of this book is a specialist in Leprosy and is Secretary of the Gandhi Memorial Leprosy Foundation in India. He has undertaken here to describe Leprosy work as organized in four advanced countries of the world, viz., the U.S.A., Hawaii, Japan and Philippines, where in accordance with the dictates of modern science, the prevention and cure of leprosy is undertaken as an essential part of the national health programme on Government level; and he contrasts their efforts with the inadequate anti-leprosy measures in three other countries including his own, where most of the work is done by non-official agencies. This book is thus a detailed study of the problem of leprosy as it obtains in seven different countries of the world.

As a result of his training and knowledge, the author sees the leprosy clinics and colonies not in isolation but as part of the whole community in each of the countries he has visited and he brings forth graphic pictures of them both, viewed separately as well as in their relation to each other. Thus the evil of leprosy is seen here also as a problem in Sociology.

There is still another interest in this book. A good part of it is devoted to observations of men and manners, colour and other prejudices, travelling arrangements, the friendliness which modern transport evokes among vastly divergent peoples and which is thus tending to make a family of the human race.

The author's pages devoted to the past and present of Hiroshima, though inevitably saddening, point out a great number of good auguries.

**A travel book and
a treatise on
leprosy combined.**

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ROUND THE WORLD OF LEPROSY

A travel book and a treatise on leprosy

by
R. V. WARDEKAR, M.D.

Foreword by
G. V. MAVALANKAR
Speaker of the Parliament, New Delhi

GANDHI MEMORIAL LEPROSY FOUNDATION
WARDHA, M.P. (INDIA)

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FOREWORD

THE author of this book, Dr. R. V. Wardekar, is a young man of promise. He is 40, and Secretary of the Gandhi Memorial Leprosy Foundation, a prominent organization in India for fighting leprosy. After obtaining a highly merited M.D. from the Bombay University in 1944, he settled to a growing practice in Bombay—which, however, he did not feel to be his vocation. He soon moved on to the countryside to render service where service is greatly needed in India: among the rural masses of our people. He worked for five years at the Sevagram Hospital which combines a special rural bias with modern science in its methods of treating diseases. He also specialized in leprosy.

By training Dr. Wardekar is a man of science, deeply imbued with its spirit of objective enquiry; and by avocation he is devoted to the relief of the poor and the ailing in rural areas. When the Gandhi Memorial Leprosy Foundation was formed he was drawn into it as its Secretary. It has been a happy choice, since the spirit of service that he brought to his ministrations of leprosy patients has helped to enhance the scope and widen the field of activities of the Foundation. So much for the Author.

In April 1952 the Government of India decided to depute someone to go on a study tour for four months under the Point Four Programme and the choice fell on Dr. Wardekar since it was felt that the Foundation could vastly increase its usefulness if its Secretary were to get an opportunity to visit some of those foreign countries which have been tackling the problem of leprosy since long and have introduced the more recent advances in their treatment of the disease. He left India on 3rd November

1952 and returned in the following February after visiting U.S.A., Hawaii, Japan, Philippines, Hong Kong & Thailand. In these countries he visited most of the leprosaria, preventoria, research centres and allied institutions. He visited the famous Leonard Wood Memorial of the U.S.A. and had the great advantage of getting personally acquainted with its head Mr. Perry Burgess; and he established contacts with various institutions in the countries he visited. He has lived, necessarily for short durations, in 7 centres in the U.S.A., 3 centres in Hawaii, 5 in Japan, 4 in Philippines, 2 in Hong Kong and 1 in Thailand. During the course of these visits he formed close ties with over 45 medical men devoted to one branch of leprosy work or another. Dr. Wardekar had discussions and free exchange of views with these men of devotion to learning.

But this is not a book all about leprosy alone. Its author sees leprosy clinics and colonies as part of the entire human community in each of the countries he visited and he brings out pictures of them, both separately as well as in their relations with each other. His attention is no doubt focussed on his main objective but he sees too the surrounding scene and picks out what the effective doctor must notice about the milieu of his patient. He is also an affable friend and does not fail to observe and report on the circumstance of his changing hosts and growing friends. This account of his travels is therefore of equal interest to the layman who will find in it descriptions of various peoples, their customs and manners, the occasional colour and other prejudices, the travelling arrangements, the friendliness that modern transport evokes among vastly divergent peoples and which is tending to make a family out of the whole human race. Readers outside India will find in this book an unfamiliar point of view—that of a highly educated person looking at their country and its communities as a citizen of recently liberated India.

Dr. Wardekar has had the good fortune to visit Hiroshima

and to witness the poignant phenomenon of a dead city coming to life again, a triumph of the human spirit over an unprecedented affliction. For our benefit he contrasts authentic accounts of the dead city just three months after it was bombed, with the triumphant resurgence of life which he found for himself, literally the grave made into a tabernacle.

Of particular interest to the leprosy specialist are the statistics of, and the problems associated with, experiments in segregation; his observations on child examinations and follow-up; the unions of leprosy patients and the progeny thereof. He tells us about the various amenities that different countries provide to make the lot of their leprosy populations tolerable and even happy. We learn that colonies have theatres, shops run by the patients, suitable games, and many other such activities that help to take their minds off their sufferings—which brings home to us here in India the great need of supplementing the medical by the psychological treatment by way of providing pleasant surroundings as an essential adjunct in curing the leprosy patient. He rightly emphasizes the need of co-ordination of work among the different agencies, since there are so many aspects and facets to the problem of leprosy that no one agency can cope with them all. He also gives, towards the end of the book, a short account of leprosy work as carried out in India since the last century.

I am happy that Dr. Wardekar's wife who is also a medical graduate has been his colleague in the work that he has chosen for himself. This is a point of elation, a happy augury for this country, for we learn from the doctor's account that in the countries he visited some eminent workers are joined by their equally enthused wives and the two work hand in hand. What greater fulfilment can there be of the marriage vows than that both husband and wife make common cause to serve humanity!

Leprosy recognizes no geographical, racial, or political boundaries; and those who fight this common enemy of mankind

should have none too. They who work in this field are all servants of Humanity and I hope this book will help to bring the workers in different countries closer together as comrades in service.

G. V. MAVALANKAR.

Ahmedabad, Fifth Republic Day,

26th January 1955.

PREFACE

IF I had the slightest inkling that on returning home I would have to write a book about my tour of foreign countries, I might have altogether dropped the idea of going abroad. But I had to yield to the wishes of my seniors and friends and the present book is the outcome of my assuming the role of a writer, which I am not.

I was deputed by the Government of India at the instance of some of those, who considered me fit to go abroad for a study under the TCA Point Four Programme of the Government of U.S.A. The original proposal was that I should spend a year out of India, but as the Gandhi Memorial Leprosy Foundation could not spare me for more than four months, the study tour was planned only for that period. There were various ways of utilising those four months but my sponsors decided that I should proceed directly to Washington, without stopping anywhere in Europe, spend two months in the U.S.A. and devote the remaining two months to touring Hawaii, Japan, Philippines, Hong Kong and Thailand. I do not know what made them take that decision or select one country and not the other. A tour of this nature, with the limited time at one's disposal, sets a particular pattern to the study that can be undertaken. One can only examine cursorily the leprosy problem in each country, with gross special characteristics of the disease if any exist.

Although, broadly speaking, leprosy is the same in all countries and the methods of treating a case are fundamentally uniform, the leprosy problem everywhere is not the same, since it varies as the conditions obtaining in each country. As my work in India concerns as much with the problem as with the patient, I was glad that my sponsors had arranged for a

study-tour rather than a stay at one particular place for the whole period.

My experience of leprosy work in India had convinced me that leprosy-control needed two types of activity; first was the active anti-leprosy measures and the second was raising the standard of living and bettering the hygienic and sanitary conditions of the people. In spite of the hammering that leprosy was not a disease of the poor, I was convinced that as long as dire poverty existed in India leprosy could not be completely controlled.

The view that anti-leprosy work is 'compassionate and humanitarian' has not appealed to me. Leprosy is after all a communicable disease, its control deserving the attention of society and Government as a duty rather than as a favour to anybody. If leprosy is to be brought on a par with the other communicable diseases, which is the only right approach, differences between leprosy workers and others will have to be levelled out and the sphere of their activities will have to be widened. The important role which the standard of living and sanitation play in the spread of the infection has to be realised. Anti-leprosy activity cannot merely aim at the satisfaction of giving relief to the sufferer but Leprosy must be effectively controlled and, if possible, ultimately eradicated some day. Recent advances in the therapeutics of leprosy have certainly created a new hope that if cases are detected in time, the disease may be arrested before the patients develop mutilations and deformities or become highly infectious.

I was happy to spend two months in the U.S.A. for I could see what a higher standard of living and less crowding mean and how these factors had helped to check the spread of leprosy. It was also obvious how the failure to launch a case-detecting campaign had kept the problem lingering.

Anti-leprosy activities have to be conducted by Governments for they alone can change the material conditions of their

peoples and not any number of voluntary agencies, singly or jointly. In each of the countries I visited the anti-leprosy campaign was entirely in the hands of the Government, and not of private agencies. The problem was being tackled on a national level rather than of charity.

Apart from leprosy, I was equally interested in the social life, for I wanted to know the peculiarities of the peoples of different countries and why some made a rapid progress and not others. Whatever other information I could gather was defined by the duration of my stay, the distances I had to cover to see leprosy work and the means of communication.

The study-tour, as planned by my sponsors thus proved satisfactory for a person of my views, irrespective of what others may feel about it. I have to record my thanks here to the Government of the U.S.A., Drs. Neblack and Reider, and others in different countries who helped me in hundred and one ways. My thanks are due to those two who without asking me whether I wanted to go abroad, decided to send me. I have also to thank the Government of India, Dr. E. Warner of U.S. Public Health Service in Delhi and the Gandhi Memorial Leprosy Foundation for giving me an opportunity to have a look at the 'World of Leprosy' in other countries.

Now, a few words about this book, which would not have been written if Shri G. V. Mavalankar, the Chairman of the Gandhi Memorial Leprosy Foundation and Shri Devadas Gandhi had not repeatedly urged me to write it. I returned to India on 27th February 1953, but hardly found time to write anything, which explains the delay in publishing it. I do not know whether this is a diary, a report or something else, but whatever name may be given to it, *it reflects my own observations for which none else is responsible.*

I have to thank Shri G. V. Mavalankar not only for his encouragement from time to time but for countless other favours, of which one is writing a Foreword.

In writing this book I have had to refer to various books, Journals and reports — official as well as unofficial — and I am indebted to all these. My thanks are due to those authors whom I have quoted at places.

I owe a great indebtedness to my friend Shri Haribhau Kulkarni, who patiently went through the type-script and offered suggestions, most of which have been incorporated. I have also to thank my office-staff for their full cooperation in preparing the press copy. It was very kind of Messrs. Deokule of Rational Art Service to accept the printing work of this book and execute it in a short time.

R. V. W.

Wardha, 15th July, 1955

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I

MY FIRST CONTACT WITH THE WEST

IT looks surprising, but true all the same, that I had no ambition to go abroad. The prospect of a tour of the foreign lands was, therefore, not very exciting to me. Extensive touring in India had convinced me that my own country provided me so much to learn that I could not finish it in the years ahead.

The work in hand had kept me so engaged that I had hardly any time to think of the tour or what I was to do in the foreign lands. But that helped me to remain peaceful till the day of my departure. A change suddenly gripped me only when I discarded my usual dress to change into a suit specially prepared for my tour. The association of the suit with the idea of leaving my country a few hours later, made me very serious and quiet. For then I fully realised that I was to remain away from my country, friends and people for a period of four months. More painful was the thought that my wife, who had sacrificed so much for me, would have to stay back at home.

I was going to lands unknown to me and travel so rapidly that before I could be acclimatised to one country, I was to move into another. What chances did my people have of seeing me again when the travel round the globe was all by air? What was going to be my programme in the various countries? These and a hundred other questions were before me, but I had no answer to any of them at that moment. In that state of suspense I entered the TWA Constellation on the night of 3rd November 1952. Before I could locate the place where my wife and friends were standing, the plane started moving and within a few minutes we were off the ground. Booked directly for Washington, it was not possible for me to stop anywhere in Europe.

After the usual announcements of the flying time, height of

flight etc., we were served an entirely American dinner. Later when the lights were off, I could not have a wink of sleep. Inside as well as outside the plane it was all dark and in spite of the droning engines the atmosphere was not alive. The only sign of life was the flickering of the red lamp on the wing, which I could see from my seat.

After six hours we landed at Dehran in Arabia and saw the Arabs with their turbans. In an hour the plane was ready for a take-off. Just outside the plane, the TWA staff stood at attention and as the plane started moving off, they saluted it. I enjoyed that send-off at every departure on the way. After landing at Basra for another hour, we were off for Cairo, reaching there early in the morning. There I posted a letter to my wife in the hope that by the time I reached Washington, the letter would be in India. But later on I learnt with a disagreeable surprise that it took one and a half months to travel over the distance which I had covered in about 12 hours. My letter, not being in English, probably caused a headache to the Censor and might have passed through several hands before it could be interpreted.

Our next halt was at Rome, but the flight over the Mediterranean was very rough. We were surrounded by dark clouds, there was severe bumping and swinging, the red signal of 'Please fasten your belts' was constantly on, things in the kitchen were toppling down, many became sick, and even the air-hostess and the purser admitted that the weather was unusually rough. I escaped sickness, but could not get over the feeling of uncertainty of the next moment.

The weather continued unchanged at that altitude but as we approached Rome, the plane climbed down to a calm and clear stratum. From there on, we flew for miles over hills, traversed by serpiginous foot-tracts. On our left was the long irregular sea-shore with occasional boats. We landed safely at Rome, but the airport did not give me any indication of the beauty of the city. We left Milan at about 4 p.m. (Milan time) to cross the

Alps and land at Geneva on the other side. The weather now was very fine with the sun shining in the clear azure sky. Soon after leaving Milan, the plane started gaining altitude by ascending spirally among the different ridges of the snow-capped mountains. We could enjoy the picturesque spectacle for over an hour and crossing the beautiful Alps we landed at the Geneva airport, which to my mind was the best I saw.

Paris, we reached after sunset. The airport was crowded with people wearing a variety of costume. Just opposite was a store, arranged very attractively and attended by an equally attractive lady. When I re-embarked the plane at Paris I felt very sleepy and would not have got down at Shenon if I had been permitted to sleep without interruption. I never knew how we crossed the Atlantic.

Half an hour before landing at Gander on the other side of the ocean I had to get up again. The weather was slightly rough, but our landing was smooth. Being in Newfoundland, Gander was very cold and in addition it was raining. The few woollen clothes with me were not sufficient to protect me and almost shivering, I reached the waiting hall, which was quite warm. The only thing to attract me at Gander, was the very smartly dressed airport officers, but they did not seem to belong to TWA. Within half an hour of leaving Gander, we were again aroused by the purser, with the announcement that General Eisenhower had been elected President. Immediately followed the announcement of a breakfast. The two were so timed that the breakfast at that odd hour of 4 o'clock in the morning could have been easily passed off as a celebration for the news. But in reality we had been flying for 12 hours after dinner and it was really time for breakfast, though not by the watch. Passing over various gulfs and industrial towns, we approached New York and after encircling the Statue of Liberty, landed at the International airport.

Getting a clearance through the customs and immigration

departments, I got in the 'bus to go to La Guardia airport, where I had to wait near the entrance for about 2 hours to get a plane for Washington. Within a couple of days I had covered half the globe, passing through different countries and seeing several peoples. At the moment I was in one of the world's busiest airports, where every few minutes there was a landing or a take-off. People were rushing in to catch a plane or crowds were coming out in a hurry. Nobody, except people like myself, seemed to have any time to pause or think. There was so little room about, that I had to shift every few minutes to make way for somebody.

At Washington a young man from my sponsors' office met me. After 2 days of travelling I was dead tired and craved for a bath to which I proceeded immediately on reaching the hotel. After a good bath I set about to find my way in Washington.

In the morning I started for the office of Education Branch of U. S. Public Health Department, situated in the Federal Security Agency. I boarded a street-car and was surprised to find only one man could manage the work of the driver as well as the conductor, even at that rush hour.

Dr. Neblack, Director of the Fellowship Programme and Dr. Reider, his assistant, were already in the office. After formal introductions we came to my itinerary. I learnt from Dr. Reider that I had to pass two months in the U. S. A. and spend the remaining two in touring Hawaii, Japan, Philippines, Hong Kong and Thailand. Mrs. Enterline, the receptionist, was good enough to arrange a room for me in Davis House, where many of the foreign students were staying. The office rooms were clean and tidy. Tables were not heaped with huge files which I had seen in every office at home.

Davis House was managed by an old charming lady. Throughout my stay in Washington I lived at her place. There the Quakers used to have their meetings when I had the oppor-

tunity to see a number of interesting persons.

All the foreigners, holding U. S. Fellowships were expected to spend the first week of their stay in America at the International Centre in Washington. It was being managed entirely by honorary workers, who did their best to give maximum information about their country by lectures, pictures, films and arranging for home visits and excursions. There was not the slightest trace of any political colour to the lectures or any of the activities of the Centre. Discussions were free and open. There were no 'Curtains' or 'Manouvres'.

Having joined the International Centre on a Friday I had the benefit of knowing the outgoing batch of students, with whom I spent the next three days, as well as the new batch which came thereafter and till next Friday I was with them. I had to stay in Washington for two weeks and through Davis House and the International Centre I made so many helpful new acquaintances that within a week I saw a great deal of the place as well as the people. I visited schools, theatres, homes and various other places and in addition read a good deal of the literature about the people and their country.

Washington is a planned city and the streets and houses were numbered so methodically that even a foreigner like myself could get to any place very easily. At every crossing on the streets signals for the vehicles as well as those walking on the footpaths were timed to change automatically at specific intervals. The whole city appeared to be very clean. I had heard much of the 'speed' but found no difficulty whatsoever in adjusting myself to the life there. Activity started rather early in the morning and though it was winter with long nights, most of the people were out for work by 8 o'clock in the morning. Men and women worked together in offices, shops and many other places. But women seemed to be more conspicuous in certain places like cafeterias, drug-stores, theatres, many of the offices and some shops. Men did not appear to be very fastidious

about their clothes and apart from the people in offices and some shops, who had the customary suit and tie, others were in a variety of clothes to suit their tastes and probably their occupation too. Women had a very wide choice in their apparel, make-up and hair-styles, samples of which were exhibited on dummies in thousands of show-cases. In spite of severe cold, when everybody had to put on overcoats and gloves, the fair sex had enough opportunity to display their taste because of the centrally heated offices, shops, theatres, cafeterias, drug-stores and residential blocks.

The Americans have a number of peculiar characteristics, one of which is to raise gigantic structures. This can be easily seen from any of their Government buildings or memorials. Amongst the Government buildings, the Pentagon and Federal Security Agency Buildings evoke wonder. The Pentagon meant for the headquarters of the National Defence establishment, can accommodate 35 thousand persons. It has open portico running a total length of 16 miles. Inside it are stores where the employees can buy all their requirements. Outside in the parking space 10 thousand cars can be parked at a time. Washington Memorial is 555 ft. high and the Lincoln Memorial has 48 pillars, one for each State. But of all these memorials, I was deeply impressed by the simplest. It was 'The Tomb of the Unknown Soldier', near the Arlington National Cemetery, where one random body selected out of thousands of soldiers killed in the World War I had been brought ceremoniously. As I got down from the 'bus, I could see a very wide and beautifully paved flight of steps, rising gradually for a long distance, just in front of the main building. The building itself is a spacious hall of a simple design with a small museum exhibiting various weapons of warfare.

The building is guarded all the 24 hours by the best young men of U. S. Army. To be assigned the duty of a guard is considered a great honour. At every even hour the guard changed,

and we were there in time to see the most impressive ceremony.

There were over a hundred visitors present at the time, but as soon as the bell rang, the whole crowd stood silent and watched the ceremony, which continued for about ten minutes. I was moved to see how the remains of an unknown soldier were being honoured. The value of the memorial could not be measured by the amount of expenditure incurred over it. A gigantic and beautiful building would not have probably created such a deep impression as that simple but unique ceremony produced in the minds of all who witnessed it. The sight helped release a tremendous and continual emotional force by rousing one's sense of duty towards one's country.

Drug-stores and supermarkets are peculiar American institutions, seen all over Washington. In a drug-store only one corner is occupied by the drugs, the rest being really a general provisions store and an eating place. Food is served on narrow, high counters, while the customers use small seats fixed in a row near the counter. Supermarkets are very large stores selling almost every article of utility. At the entrance, a number of small push-trolleys of wire are kept, so that the customer can take one, move about the whole place, select his purchases and carry them to the counter, which is usually at the other door, just in five minutes. Apart from the convenience, the most striking feature is that even for a market of such size, only a few persons are required to manage it. Everything was kept open and nobody watched the customer. Yet no one took away anything without paying for it. At many other places, newspapers or books were kept just open, the customers leaving their money on the table or in the box.

I had occasion to visit a co-educational high school where the students were admitted after they had finished their 10 years of the elementary school, so that the average age at the time of admission was about 13 to 14 years. The Principal first explained to me the method of school-work before going to the various

departments. In the corridors, I saw groups of students going from one class to another. All of them, including the girls, were dressed in simple clothes. They looked very healthy, happy and clean. The building was very large but still they could afford to get it centrally heated. Apart from the routine classes, this school provided vocational training. There was a printing press, radio-engineering work-shop, office-machine class, architectural drawing room, electrical laboratory, a class for running shops and driving automobiles, the school-bank and nursing centre etc.

It took me about 3 hours to go round the various classes and see how America's coming generation was trained. Apart from the usual subjects, the students had to select a few others. After finishing the high school course, they can support themselves. The school-bank was run by the students themselves. The school was publishing a monthly paper and an annual magazine, of which the specimens given to me were very attractive.

The school cafeteria was a spacious hall fitted with a refrigerator, a radio-set and a gramophone. The lunch being partly subsidised by the Government, was very cheap. Many of the boys were dancing with the girls and did not mind the Principal going round. The influence of 'Community' was obvious, for the school, although situated in a Negro locality, did not admit coloured students and in spite of an accommodation for about 2000 students, they had admitted only 800. The school was rather expensive, for they were spending about \$320 (Rs. 1600.) per student per annum while the corresponding figure for the average school was about \$180 to \$200.

One morning, I spent about 3 hours in the Children's Bureau of the Federal Security Agency. The lady doctor in charge of that section was kind to me and I could learn a good deal about the whole set-up. The Federal Government allocated large grants each year to the different States to do child welfare work but most of its quota was used up either in paying salaries of workers or towards the cost of maintaining hospitals for crippled child-

ren. There were mainly two types of services, one for crippled children and the other was social services for the children. Although they were doing quite a good deal, much had yet to be done and thousands of needy children were without any help.

The American diet is rich but tinned food is very common. It has however, facilitated cooking, so that any housewife can prepare food for any number of people at a very short notice. I had occasion to see this in one of the homes, where I was taken almost at the eleventh hour. In many houses, in addition to the refrigerators, there are 'freezes' which maintain freezing temperature uniformly so that pork or beef, well-packed in cellophane paper, could remain fresh for even a month. In spite of all these facilities at home, the necessity of going long distances for work, has resulted in people lunching out in drug-stores and cafeterias, which are visited by women as frequently as by men.

Every third American owns an automobile, which taking into consideration the 'speed' has to be a large one. Finding parking space for the car is a tough job and many people travel by street-cars during the working days, reserving their own cars only for the week-end. Most of the main streets carried rows of Municipal Parking Posts fixed at convenient distances. Each carried an automatic timing machine so that the proper amount at the rate per hour could be inserted at the time of parking. As soon as the coin was inserted, the machine showed a green label, which changed to the red signal of 'violation' after the due time was over. A number of policemen were maintained to look after the Parking Posts and to detect the 'violators'. Apart from the Municipal Parking Posts, cars could be parked in small private parking grounds on fixed payments.

I had the opportunity of visiting a number of offices, which presented a striking contrast to those I had seen in India. There were no peons to carry files or messages. It had to be done either by the person concerned or on internal telephone. Filing and recording was so methodical that within a very short time

any paper could be traced. But with all that, it was my impression that most of the people had rather too much of free time in the working hours. I did not know whether that was due to overstaffing or greater efficiency. Anyway I saw many of the girls polishing their nails or reading novels or going to the coffee-house too frequently during the office-hours.

Saturdays and Sundays are full holidays and passing the leisure hours had almost become a problem. Various outdoor sports, indoor games, drinking, going out for week-end and attending the theatre etc. are common methods of dealing with it. The cinema theatre started functioning from 10 o'clock in the morning and continued till 12.30 in the night. At the booking window sat smart and usually young girls. I found time to see three plays, each depicting a different section of society but all were staged very well. In the audience, every variety of women's dresses and hair-styles was in evidence.

On Saturdays, although the offices were closed, the markets and shops remained open. It was also the day of domestic work. Wages being high, nobody except a very few rich people could afford to engage a domestic servant. I saw both men and women working in the house to keep it clean and tidy. Even many shop-owners cleaned their shops and after snow-fall men and women cleaned their own cars or the foot-paths opposite their homes. Waitresses attending in the drug-stores cleaned the floors. In some places like Davis House, which were too large to be cleaned by the hostess, a coloured maid used to come twice a week. High wages and scarcity of labour had stimulated a search for labour-saving devices and everywhere I could see automatic machines to do human jobs. Electric toasters baked the bread to the correct degree, vacuum-cleaners cleaned the floors, cigarettes, coffee and Coca Cola were served through machines, and at the airports a machine insured the passengers. In drug-stores, cafeterias and such other places, paper had replaced cloth. Even doctors dried their

hands with paper-rolls. Washing napkins, dishes and glasses frequently cost much more than the loss in throwing away the used paper articles. To a foreigner all that appeared as waste, but in terms of the American economy it was cheaper.

The average American apparently believed himself to be completely independent of society. Yet my impression was that the sense of Community life has taken a firm hold of his mind to such an extent that he is not conscious of it. I could see that in every sphere of life the American thought in terms of Community life. Community school, community road, community development plan, community 'Red Feather Chests', social welfare agencies and various other activities indicated very clearly the pattern of American thinking, which was really the result of their past heritage. The American's forefathers had migrated from European countries as equals and naturally the whole society has developed with mutual help among equals. The American people, therefore, like to stand on their own legs rather than depend upon the Government for everything. In fact, any interference by their Government in Community matters was deeply resented. I personally believe that dignity of labour and the sense of Community life have been mainly responsible for their rapid and continuous progress.

II

WASHINGTON—PUBLIC HEALTH SERVICES

ONE of the most important activities of the Federal Government's Public Health Department is the National Institute of Health at Bethesda, about 10 miles from Washington. Government had started research activities about 60 years ago in a Marine hospital. But since then these activities increased so fast that in 1930 the Research Laboratory was given the name of National Institute of Health. Every year the work was increasing and new sections were being added. That resulted in 1938 in shifting the Institute to Bethesda on a very spacious site. Within a few years, more sections were added and at the time of my visit there were seven special sections, one each for cancer, microbiology, heart, dental, mental health, neurology and blindness, arthritis and metabolic diseases. The activities of each section cover a very wide field and each is given a separate name e.g. National Cancer Institute, National Institute of Mental Health and so on.

The N.I.H. had a number of field units working at different places in the country but the findings of the Laboratory at N.I.H. had to be tested by clinicians far off from the headquarter and that caused a considerable delay in evaluating the results. To overcome the difficulty a new 14-storied hospital building was being added at Bethesda, so that about 500 cases could be admitted and studied intensively with a view to further research. At the time of my visit the new hospital building was nearing completion.

I spent two days at the N.I.H. but the whole set-up was too big to be covered even cursorily within that time. The N.I.H. is almost a separate colony with many spacious buildings, where thousands of different types of workers are engaged. Thousands of millions of dollars have been spent on the initial establishment

and every year hundreds of millions of dollars are sanctioned to keep up the increasing activities.

I met an Indian friend in the National Cancer Institute and spent most of my time in seeing the activities of the various departments of that section. These activities consisted of studying structure and reproduction of cells, chemical activity of cellular components, role of endocrine glands, reaction of cells to viruses and effect of radiation on cells. The knowledge about the 'causes' and 'cures' for cancer depends upon the information gained from these basic studies. Testing and synthesis of chemicals is carried on and more than 3000 compounds were tested. Experimental transmission and culture of cancer cells was also being studied, as that was equally necessary for testing the effect of drugs and studying the behaviour of the cancer cells. A nation-wide anti-cancer campaign had been started to induce patients to go for diagnosis and treatment in the early stages.

In spite of such intensive and all-sided studies only of one disease, the progress in the knowledge about it was very slow. This very clearly demonstrated the meaning of 'research', what were the requirements for conducting it and the time interval between starting the research and gaining knowledge for practical use. My first thought on seeing the N.I.H. was to direct all those, who talked loosely of research, to that place. In one of the sections at the N.I.H. I met Dr. Fite, who was once working as a histopathologist in Carville Leprosy Colony. Though he was engaged in some other work at the N.I.H., his interest in leprosy had continued and he was getting interesting material for study from Hawaii and Carville.

In the National Cancer Institute, I met Dr. Stewart, who was to go to India to attend the International Conference of Cancer. He was interested to know the conditions in India.

Another very important activity which I studied, was the

Health Services in a county. I had expressed my desire of seeing health work in the villages and Dr. Reider had arranged for me to go to a county about 40 miles from Washington and stay there for 5 days.

Leaving Washington by a Greyhound Bus on a rainy morning, I passed through some villages and scattered dwellings. Near every house, there was a receptacle for the daily newspapers, but the striking feature was that none was locked. In some places the receptacle was standing isolated, far away from the house, but nobody bothered to lock it and none stole the paper.

A county is almost like a *tehsil* in India and in the whole of U.S.A. there are over 3000 such county administrations. The county I visited had an area of about 400 sq. miles and a population of about 123,000. There were 60 physicians, 25 dentists and 200 nurses, who were all in private practice and not in the service of Government or county administration. Medical care and health work were two different branches, the former being a State subject, while the latter was under county administration. Local voluntary agencies, citizens' health committees and other welfare workers helped it. In the county ten village centres were started entirely with the efforts and finances of the local voluntary health associations. The pivotal figure in the village centre and the whole set-up of the County Public Health Department, was the public health nurse, whose duties were manifold, but always consisted of doing only auxiliary work under the direction of the doctor. She helped expectant mothers to secure medical aid before and after delivery and instructed them about feeding and general care of infants and young children. She assisted the doctors in the clinics or examination of school children. She also did minor work like injections or dressings etc., whenever necessary, by paying a visit to the patient's home. She had to direct the patients to a private physician or a consulting clinic

at the headquarter or a hospital. For control of communicable diseases she had to educate the people to take proper precautions and immunisation etc. She had to arrange teacher-parent or physician-parent and similar other conferences to discuss health of the children.

The ten village centres, where a public health nurse thus worked, were meant for educating the people and detection of defects or diseases. They did not function as treatment centres except for venereal disease cases.

The headquarter of the public health department engaged the public health nurse, ran special consulting clinics to advise the patients or the referring agency or person, examined school children and generally supervised sanitation and control of communicable diseases.

The staff of the County Public Health Department to look after a population of 123,000 spread over 400 sq. miles consisted of :-

Non-nursing staff:

1 Health Officer	1 X-ray technician
1 Asst. H. O.	1 Bacteriologist
4 Sanitarians	2 Lab. Assistants
2 V. D. Investigators	1 Medical Social Worker
10 Clerks	

Nursing staff:

1 Supervisor	1 Nurse — midwife
2 Asstt. Supervisors	19 Nurses

The whole area of the county was divided into convenient sectors, so that each of the 19 P. H. Nurses had not to look after more than 5000 to 6000 people. The county had very good motorable roads and almost every place in each sector was easily approachable. Each nurse and the sanitarian was given a car to go around

The annual budget of the County Public Health Department was about \$200,000, which did not include any charges for medical care or treatment or hospitalisation. Thus the *monthly* expenditure was about Rs. 80,000.

I wanted to see actual working and fortunately for me, there was a maternity and child welfare clinic about 15 miles from the headquarter. The attendance was rather low and complaints for which children were brought to the clinic were only of a minor nature. The lady doctor could examine every case very carefully only because she had enough of assistance and had comparatively very few cases to examine. There I saw a foster-mother with her twin children, giving me an opportunity to know the details of that subject. Foster-homes served to look after children born of unmarried mothers or poor parents. The voluntary social welfare agency or similar other institutions helped in finding out a suitable home for such needy children where they were kept till they were about one year old. If by then some arrangement for their adoption was made, they were transferred to their adopted homes. Otherwise they continued to stay in the foster-homes. The real parents of the child were not known either to the adopted or the foster-parents. The foster-homes had to be certified as suitable for the purpose by the health authorities and even later on they were inspected frequently by the sanitarian.

Next day I attended a pediatric consultation clinic at the headquarter. The doctor was called to the table to examine the case only when everything including the history-sheet etc. was ready. On examination he dictated notes to the clerk, who had to type them in case-sheets and send a detailed report to the referring agency or person. Patients were examined only after appointment, there was no rush and each case could be examined in details.

Then I left the place to go on a round with one of the public health nurses. During the whole day we visited about

five houses but they were separated by miles and just for giving an injection or dressing a wound she had to cover miles of distance. Part of her work consisted of examining school children and as I was keen to see schools, we visited an elementary school. Children from all the surrounding villages could attend because a 'bus was maintained by the school. Even lunch was served there at very cheap rates. Classes were well arranged and equipped according to modern requirements. The teacher wanted me to talk to the students who ranged from 6 to 12 years in age and asked about India and the route I had followed to reach America. Some of them asked me very intelligent questions after my talk, but many more were interested to know whether I had seen the 'rope trick' and was staying in jungles with a large number of tigers, elephants and snakes.

Just adjoining was another school for children suffering from cerebral palsies. It was known as the 'Palsy' school, where there were a dozen crippled and mentally backward children. An elderly teacher looked after them almost like a mother and each had to be given individual attention. There was a small working shed and a numebr of orthopaedic appliances for remedial exercises. Each had individual idiosyncracies, likes and dislikes. The children, in spite of their disabilities, looked quite cheerful and in their slurred tongue tried to talk to me. They were struggling to walk, eat, talk or write and even the slightest improvement meant a moment of great joy to the child and an encouragement to others. Though they were being looked after so well, the school did depress me.

During that tour I visited two Negro families, in one of which there was a case of pulmonary tuberculosis. The house was not spacious and financially also they did not appear to be above want. Conditions in the second house were shocking. I did not expect to see such a house so near the capital city. Through heavy rains we approached what was a shackle rather than a house. It had three leaky rooms, all wet and dark, where

six persons lived. In one corner a kerosene lantern was trying to fight the darkness. An old woman was busy cutting vegetables, sitting on comparatively dry ground. In the cradle lay a child whom the nurse suspected to have a blue sclera but in the darkness I could not even see the child. On taking the child out of the cradle the sclera did not appear to be blue, but I was shocked to see its fair colour, though the hair was negroid. I could not see the parents but later on learnt that the husband was a Negro while the wife was Japanese. He had met her in Japan in the World War II. On being demobbed, he could not secure any work and they were thus living miserably. Now the girl was repenting for having married him, but she had no choice.

Saturdays and Sundays being full holidays, I had to utilise in some extra-curricular activity. Fortunately that Saturday morning I could visit the Naval Hospital in the town. It was a 300-bedded hospital fitted with the most modern equipment. Later I met all the doctors in their canteen and had a very interesting discussion. There I learnt that the younger generation of doctors was very reluctant to take up the service jobs, because in private practice they earned more and cared more for money than the excellent academic and scientific career which those jobs offered.

In the evening my hostess the old lady teacher invited me to tea. She gave me some interesting information about American politics and desired to know the conditions in India. In the course of our conversation, I realised how an average American cannot understand the real meaning of poverty. For instance, after having described conditions in India, I was asked whether Indians ate a lot of icecream because of their hot summers. She herself preferred Californian oranges to the Floridan, and was apparently shocked to know that Indians did not take orange juice at the breakfast.

On Monday morning I went on a round with the sanitarian and visited a number of restaurants, homes and shops in the vil-

lages. Except in some of the Negro homes sanitation was far better than in India, though not perfect. In places, where no tap-water was available wells were fitted with electric pumps. On our way I went to one of the foster-homes where the parents had two children of their own. That sight took me back to India, where thousands of childless couples desired children, and could well afford to have foster-children or even adopt them. But there was the lack of Community sense.

In the afternoon I saw another elementary school. Education upto the High School Diploma was free and compulsory. The educational programme was mainly a local concern and they had a wide latitude in framing the curriculum and arranging the courses. More than half the money came from the local administration, a part from the State Government, while the Federal Government contributed only a very small portion. Money was raised mainly from the local taxes levied for that purpose. Even parents who sent their children to private schools had to pay the taxes. About 12% of the children attended private schools. The average boy or a girl started attending the nursery school at 3 to 4 years of age, then spent 10 years at the elementary school and completed the high school examination by the seventeenth year. The fundamental difference between the usual schooling in India and the U.S.A. was that the routine subjects were compulsory only upto the elementary school stage, and later on there was so wide a range for selection that each student could take up some practical line and stand on his own legs after finishing the high school. That no doubt raised the cost but in the long run, it was more useful than just turning out each year thousands of helpless boys and girls only to add to the problem of educated unemployed. The average salary of the teachers was increasing every year and at that time it was about \$4000 per annum. There were over one million teachers. It was no wonder that the teachers could keep their own cars and do their work with enthusiasm.

I met many school-going boys and girls who worked in the drug-stores or cafeterias 4 or 5 times a week just to earn for their additional needs. The minimum wage was 75 cents (Rs. 4) for one hour's work and many earned about \$300 to 400 per year by working in vacations. I met a taxi-driver, who attended his college during the day and worked for rest of the time.

On the last day of my stay in the County Health Department, I attended a special hearing clinic. In the afternoon I left for Washington as from the next day I was to work in the Armed Forces Institute of Pathology for a week. Although I was holding a U. S. Fellowship, Dr. Reider had to get a 'clearance' for me, without which nobody could enter the Institute. When I reached there in the morning, a table was kept ready for me with my name-plate on it. I was first taken to Dr. Binford, who was in charge of the Leprosy Registry, sponsored by the Leonard Wood Memorial. After a short preliminary talk he suggested that I should get ready to attend their usual weekly conference, which started in another half an hour.

The subject of the meeting was 'Haemorrhagic Disease in Korea' and Col. Zimmerman was going to read a paper and show slides and other data. The cases had occurred in Korea in the thick of war and some of the soldiers had died of it. In spite of all the odd circumstances methodical and complete examinations were made and the collected material was sent to A. F. I. P. for careful study and evaluation with a view to suggest the line of further investigation and treatment. Interesting discussions followed and a number of suggestions were offered.

After lunch, Col. Zimmerman's Secretary took me round to see the whole place. The inception of the A. F. I. P. was made a hundred years ago, at the time of the American Civil War, and it was then known as the Army Medical Museum. The purpose at that time was to establish a laboratory to study the pathological material and relevant records of diseases and wounds of

the war in order to train an army of medical officers and to find out methods of reducing the suffering. Since the beginning there was a desire to spread the knowledge thus gained to the civilians also. The original name was changed from Museum to Institute of Pathology in World War II and to the present A. F. I. P. in 1949. The A. F. I. P. was directly under the charge of the Surgeon-General, but its broad policies were controlled by the Governing Board of the Surgeon-Generals of the Army, Navy and Air Force. In addition there was an Advisory Board consisting of pathologists in the U. S. A. The staff consisted of medical men, technicians and lay persons from the Army, Navy and Air Force. At the time of my visit the Institute had expanded so much that the existing buildings were found inadequate and additional buildings were under construction. It had four major departments — Department of Pathology, American Registry of Pathology, Medical Illustration Service and the Medical Museum.

The Department of Pathology was the main department, where specimens from over 4000 cases were received from various sources for study and diagnosis. The American Registry of Pathology operated under the National Research Council, but belonged to the A. F. I. P. and was staffed by its members. There were 20 separate registries, sponsored by national organizations, one of which was the Leprosy Registry. The other registries were concerned with cancer, other neoplasms, dental diseases, eye diseases and similar problems. It was mainly functioning as a consulting and research service rather than a mere diagnostic department. Anybody could send material with a complete history and other records for an opinion from the Registry.

The Medical Illustration Service was dealing with preparation of models, specimens of other designs and photography etc. It gave training in clinical photography also. I saw excellent specimens prepared there and exhibited in the museum. The Medical Museum had three sub-sections — Medical Science

Museum, Advanced Teaching Museum and Lay Public Museum, which was being visited by about 125,000 visitors annually.

The A. F. I. P. offered excellent opportunities for training of pathologists and others. A good deal of research was carried on there and papers had been published. But even for it to function as a research centre, there were some fundamental deficiencies and they had prepared plans for further extension of activities so as to take up more experimental studies. Along with the N. I. H., the A. F. I. P. contributed in a large measure to the advancement of the American Medicine.

After finishing the round, I went back to Dr. Binford to finalise my programme for the week. The time at my disposal was severely limited and it was not possible for me to study anything at great length. I decided to study only some selected histopathological sections of skin, leprosy and liver. Everything was so methodical that within 15 minutes I received the whole set of slides with their descriptions and before leaving the place in the evening, I had fairly started upon my work.

The next day fell the 'Thanks-Giving Day' which to every American, wherever he was, meant a day of great rejoicing with a historical significance. At the time of migration from Europe many had died on the way while some died soon after reaching America. Those who lived had to face very hard times but finally they settled well. It was then that they had decided to celebrate a day in order to thank God for His blessings. The first Thanks-Giving Day was celebrated over 300 years ago, but it was not then fixed, nor had it received nation-wide popularity, till about 90 years ago. Feeling the necessity of observing it as a National Day the then President proclaimed the last Thursday of every November as the 'Thanks-Giving Day' to be celebrated all over the country. No foreign guest in America remained unattended or lonely on that day and Dr. Reider had

arranged, days in advance, that I was to be with Dr. Owen and his family on that great day. Mrs. Owen picked me up and we soon reached their beautiful home on the outskirts of the town. The lunch that day was the same in every home and consisted of turkey, potatoes, turnips and creamed onions. I passed my time very happily with the Owens till late in the evening, and when at night I returned to Davis House, I learnt that during the day I had five calls enquiring whether I was alone, although all my acquaintances were new.

I worked in the A. F. I. P. during that week, and apart from the study of the histopathological sections I attended one more conference of the staff.

III

BOSTON & NEW YORK — A CONTRAST

I LEFT Washington for Boston by the night 'Pullman' reaching there in the morning. For a whole week I was to work with Dr. John Hanks, a Leonard Wood Memorial worker who was studying the culture of Leprosy Bacillus. Dr. J. M. M. Fernandez of Argentina was also there with him and the week I spent with them working from nine to six in the Harvard Medical School was a memorable one.

Dr. Hanks started his career as a bacteriologist in the Washington University but soon took up leprosy work and went to Culion Colony in Philippines. There he spent over ten years, trying to culture the Leprosy Bacillus. At the time of Japanese occupation, he was taken as a prisoner of war along with his family, but thanks to Dr. Nolasco's efforts, he was permitted to stay in the colony and work for the patients. Owing to scarcity of food, they had a very hard time and the whole family had to work hard in the fields to grow their own rice. After the War, he returned to America and continued his work at Boston.

After studying the Leprosy Bacillus for many years Dr. Hanks had come to the conclusion that the *M. leprae* could multiply only in cells and thus they differed from *M. tuberculosis*, which could grow even outside. But during their multiplication in the cell the *M. leprae* changed the whole metabolism of the cell to such an extent that the cell died. That was the main reason why *M. leprae* had failed to grow in tissue cultures. He was, therefore, convinced that more information was necessary regarding the oxidation and reduction processes of the *M. leprae*, before they could be cultured successfully in tissues. And even that study of metabolism of the *M. leprae* had first to be done indirectly by studying those acid fast bacilli which resembled *M. leprae* very closely.

Along with Dr. Gray, a biochemist, Dr. Hanks had set up his experiments to study that aspect of the problem. Dr. Fernandez was doing some further work on Lepromin with Dr. Hanks and was to stay there for a year or so. From morning till late in the evening, I utilised every minute in seeing the work or discussing with them immunity, allergy, B.C.G. and lepromin etc. Dr. Jose N. Rodriguez of Philippines also came for a day and joined us.

Boston is an old town and though I could not go round much in the day-time, I saw a good deal of it in the evenings. One night Dr. Fernandez took me to see a Ballet with a Negro friend of his and there I could see not only the ballet but also the Bostonian society. I wanted to spend the week-end in New York and left Boston on Friday evening. In the train I enjoyed very pleasant company of a young American soldier, who had just then returned from Korea. Believing in dignity of labour, I carried my suitcase at the New York station though it was rather too heavy for me. Had I known the distance I had to walk to reach a taxi, I would have certainly submitted my claim and engaged a porter. However that served me as a lesson for the future.

It was really hazardous to go to a city like New York, for the first time, at an odd hour, and still more so when I did not know a single soul there. I followed the crowd out where people had been waiting for a taxi. No taxi-stand could be seen but through a lane on our right a taxi used to come, all shouted for it and the driver used to select only the long distance traveller. I stood there for more than 15 minutes. Taxis came and went away but hundreds of persons like myself were still standing and many more passengers were coming out of the station to join the waiting crowd. At last with the help of an old man in a 'red cap' I managed to secure a taxi on the other side of the station and to reach the Hotel Hudson.

Having kept my luggage in a room on the seventeenth floor, I went out to visit 'Broadway' which was just two squares away from my hotel. Broadway street itself runs almost longitudinally across Manhattan, but the portion of it between 44th street (Time Square) and 53rd street is popularly known as 'Broadway'. On both the sides, it is lined by shops and theatres all brilliantly illuminated. The street is literally very 'Broad' but still the whole of it was completely crowded with cars and the wide footpaths with people. In that milling crowd mostly of young men and women I had to walk very slowly. Many 'couples' were freely expressing mutual appreciation in spite of the crowd. The theatres were all full. Near the Time Square news was being flashed all the time. Huge dummies were standing erect to exhibit how clothes changed appearance and personality. Everything there was on a gigantic scale. It was already nearing midnight but the crowd went on increasing. Having seen enough of it, I returned to my room with a guide-book and a map of New York.

New York itself is too big a city to be seen completely in a few days. Its area is about 320 sq. miles and the population was about 8 million. It is not a uniform and continuous stretch of land and of its five Buroughs, Manhattan Island, about $13\frac{1}{2}$ miles long and about $2\frac{1}{2}$ miles broad, is the heart of the city. I was staying there and in the short time at my disposal could not see much more than that place. Manhattan is connected with the other Buroughs and the mainland by a number of tunnels running under the Bay, as well as by a few bridges. For going round Manhattan there were convenient, guided, sight-seeing tours. The sight-seeing 'bus had a glass-roof to see the sky-scrappers. Running commentary went on and at special places halts were made. In the morning tour, we visited the Wall Street, the harbour, China-town, Bowery, United Nations Building etc. Bowery, was the slum area and conditions were really awful. It presented a striking contrast to

the city full of sky-scrapers. After lunch we toured the northern section, visiting the Central Park, University of Columbia and Harlem, a locality with a population of about 300,000 Negroes. Horses and 'buggees' have become obsolete in America but near the Central Park I could see a few with the coachmen dressed in the classical style. People used to hire the buggees for a pleasure ride in the park.

In the evening I went to see the Rockefeller Centre, which consists of 15 buildings, of which one (R. C. A. Observation Roofs) was 70 storied and 850 feet high. I went in one of the guided tours conducted by the Centre and it took me about two hours to go round the whole place. The Centre presented many interesting features. The Radio City Music Hall is very spacious and sound-proof. On the roof there are delightful gardens. The lift is world's fastest, travelling at the rate of 1400 ft. per minute. About 35,000 people were working in the 1100 firms in the Centre. In it there are shops, restaurants, offices, drug-stores, banks, post offices, doctors, dispensaries, etc. etc. From the roof you have a beautiful view of the whole city. Different buildings in the Centre were designed by architects of different nationalities.

On Saturday night I visited 'Broadway' once again to look at the interesting crowd. At night New York presented a very different picture and the sky-scrapers looked like pigeon-holes. On Sunday morning the day started very late for the New Yorkers and when I went out at eight the streets were all empty. I travelled a good deal on that day by the 'bus and subways and covered some areas which I wanted to revisit. For lunch I went to Ceylon India Inn, a small Indian Restaurant, and had curry and rice after a very long time. I returned to Boston that night to resume my work from Monday.

IV

WITH THE BURGESSES

THE President of the Leonard Wood Memorial (American Leprosy Foundation), Mr. Perry Burgess is known all over the world for his interest in anti-leprosy work and has his office in Geneva-on-lake, a small town in Ohio State. I reached Youngstown by air from Washington and from there his son took me by a car for 50 miles to reach the place. It had started snowing and on our way we passed through beautiful snow-covered country. Thus on the 12th Dec. I was with the Burgesses at their home. They had arranged a delicious dinner in one of the best hotels in the town. We passed about two hours over the table talking about my experiences in America. Even after coming home, we continued our talk till midnight. His home, a two-storeyed building, is on the bank of a huge lake, slightly off the main road. The house has two separate blocks, the front one being their residence and office of the Leonard Wood Memorial while the rear one, slightly on a lower level, was Mr. Burgess's study. It snowed very heavily after my arrival and at midnight when I reached the lower house I had to pass through knee-deep snow, which reflected the lights. Thus the effect was like twilight. Dark against the light background the lake was full of huge waves dashing against the shore.

Next morning we went out to see the Community Hospital. At the L. W. M. office I saw some of the details of publicity work. Mrs. Cora Burgess is an excellent photographer and she has conducted special classes for 'Medical Photography'. She gave me a few lessons in her art. In the afternoon I visited the local voluntary fire-brigade station. All the roads were covered with thick snow and the skidding of the cars was even enjoyable.

In the evening we were to attend a party at Cleveland about

60 miles away. We started at five but due to heavy snow the road was not visible. The only indications of it were the telegraph posts, trees and the tract left by a car proceeding ahead. Big motor lorries had put on chains to the tyres. Police Patrol Cars were moving to help people in difficulty. The approach roads were being cleared by the villagers. In spite of all these precautions, many cars had gone off the road. At one stage, the whole traffic was blocked, we had to wait for long and just when we were starting, the battery failed. Everything was tried but the car refused to move. Mrs. Burgess, who was at the wheel felt very sorry about the mess, for which she was not really responsible. Mr. Burgess had to walk to the nearest pump for help, but before the 'wrecker' came, a Police Patrol Car helped us by dragging our car to the pumping station. It was already late for the party and we had not covered even half the distance. The Burgesses, therefore, thought of telephoning the hosts to explain our difficulty and obtain their permission to return home. But the hosts insisted upon our reaching there at any cost. When we reached their place, they were half way through the dinner.

There were about 50 people, all belonging to the higher economic strata of American society and representing various shades of opinion. The conversation was not only enjoyable but it helped me in getting some idea of their approach to life. Late after midnight when we started for home, driving had to be done almost in blinding snow. The road was lonely while all the previous tracts were obliterated by fresh snow. Expecting some mishap every minute, we moved very slowly. But still the whole experience of motoring through heavy snow was indeed thrilling.

I left Geneva-on-lake next evening with the Burgesses' daughter and her husband, who were staying in Youngstown. The Burgesses had arranged for my stay in the town's best hotel, and even in Youngstown I continued to be their guest. The time I had passed with Mr. Perry and Cora Burgess is a cherished

memory. At the time of reading '*Who walk alone*' years ago, I had never thought for a second that I could ever meet the great author of that famous book. I was however fortunate to enjoy their hospitality as a guest at their excellent home. We could discuss a wide range of subjects during the time I stayed with them. Mr. Perry Burgess is a first-rate writer, and a good publicist. He thinks on the international level. He has the great virtue of making new friends and keeping in close touch with them. His circle of friends extends over the entire globe. His technique of raising funds for public work rests upon an excellent understanding of human mind and appealing to emotion at the opportune moment. He can befriend a scientist, a social worker, a patient, a person who advocates segregation or one who decries it.

His views on segregation appeared to me to be tinged with some degree of sentimentalism, though he was thoroughly scientific in his general outlook towards the leprosy problem. Though not a medical man, he is more scientific, than many other leprosy social workers, in realising the great need of further research in leprosy. He does not believe that medical men or scientists have no place in the anti-leprosy campaign. On the contrary, it is his conviction that the greatest hope of the leprosy patient is in those scientists and medical men, who are working in the laboratories and leprosaria all over the world. In his early tours of the different countries he had realised that scientists worked isolated from one another. With his conviction that the future of anti-leprosy activities depends upon the information collected by scientists, he made an attempt, with Dr. Wade, to bring together all of them at Manila in 1931 under the banner of the Leonard Wood Memorial. It was through their joint efforts that '*International Journal of Leprosy*' was started and financed substantially by the Memorial. Mrs. Cora Burgess has been a great source of inspiration and help to him in all his activities. She is his true companion in every sense of the word.

V

CARVILLE LEPROSY COLONY

FROM Youngstown I flew to Washington and immediately proceeded to Atlanta. There I met Dr. Badger of the Communicable Disease Centre and collected as much information of the leprosy problem in U. S. A. as I possibly could in a day. In the evening I saw the city, which resembled much the other cities I had seen in the North, except for segregation of the Negro. Leaving Atlanta at night, I reached the L & N station of New Orleans early in the morning. From there I was to go by a 'bus to Carville, and returning a week later to proceed to Grand Canyon.

I had a lot of luggage with me and instead of carrying it from place to place, I thought of making use of one of the lockers fitted in the huge steel cabinet, which was provided at the Railway and Bus stations. Each locker had a key which could be taken out only when a coin was inserted. The locker was to be engaged only for 24 hours, after which period the station staff removed the luggage, if it was still found there. My experience at the Union station of New Orleans again proved how the Americans helped strangers. When I requested the young booking clerk to reserve a berth for me a week later, he started asking me about the route I wanted to follow. But I could not answer any of his questions, for till then I did not know that there were different routes or that my Government TR. (Travel Request, which was a token to be presented in order to purchase a ticket) did not completely cover that journey. It was necessary for me first to get the information from another window and then to see him. But he was very obliging and advised me about the route I should follow and the place where I should stay in Grand Canyon. When he knew that I was going to be away from New Orleans for a few days, he promised to keep my ticket and reservation ready, which he did.

As there was no direct 'bus to Carville, I was instructed by the Washington Office to ring up Dr. Johanson, Superintendent of the Colony at Carville to send their office car to pick me up at Gonzales, which I was to reach by 'bus. It was my first time to use a public telephone, which the operator realised from my talk and instructed me properly. Picking up the receiver I started inserting the coins and to my surprise received instruction that I had yet to put in 10 cents more. I did not know that the operator could count the coins at the other end of the line as I inserted them. An idea occurred to me that if I were to re-visit America after a few years, I may find even the operator replaced by a machine, to be used by the thumb, which by then would be the only functioning digit on one's hand.

I was given a comfortable room in the Guest House of the Colony. On the day of my arrival I was rather late for lunch in the Staff Dining Room but later on I always had enjoyable company at the table and learnt a good deal there. Dr. Johanson introduced me to his assistant Dr. R. R. Wolcott and most of my time in Carville Colony was spent with Dr. Wolcott, who apart from his pleasing company, shared many views in common with me.

On the first day Dr. Wolcott took me to the Laboratory and the 60-bedded in-door hospital. After dinner I accompanied him to their staff theatre, where every Monday, Wednesday and Friday a new picture was shown to the staff. After going round some of the sections in the colony, I examined a few interesting cases and there, for the first time I saw a typical case of Lazzarin leprosy in a Mexican patient. In the afternoon I demonstrated Dr. Khanolkar's concentration method for finding out acid fast bacilli in skin biopsies. As the glassware and motor required for the method were not available, I made use of whatever could be substituted. In the hospital I met an Indian patient, who had been staying in America for over 26 years. As he had completely forgotten his mother-tongue, I could not ex-

actly place him in any particular province of India, but from his general appearance he was probably a Punjabi. During my stay of five days, I went to every department and talked to many workers as well as patients. In addition I collected some useful literature. The place famous all over the world as Carville Leprosy Colony has been officially named as U. S. Public Health Service Hospital and is situated on the eastern bank of Mississippi, near a village Carville in Louisiana State. The colony is financed by the Federal Government, patients getting everything free and in addition a weekly pocket allowance. As work is not compulsory for them, those who work are paid at the rate of 60 cents (Rs. 3) per hour's work. There are residential blocks for the patients and for the staff and a number of playgrounds. The colony is a complete unit in itself with electricity, water-supply etc.

Each block had a number of living rooms, so that every one had a well-furnished room for himself. It was interesting to see how the rooms were decorated differently. In some, I could see cut-outs of Cinema actresses; in others a picture of Christ was prominent. While going through the residential blocks I could see canteens, general stores, photo-studios, and beauty saloons. They were all run by the patients and all the profits went to them. Facilities were provided for education and classes conducted. There was also a printing press, a well-decorated theatre for drama, pictures, dancing and such other community functions, and a good library. Some of the patients owned bicycles or motor-cycles. There was even a block called 'Monte Carlo', where the patients used to gamble! Drinking and crime were not uncommon, and a jail had to be maintained, where at the time of my visit I saw five prisoners.

The patients' diet included a sufficient quantity of milk and was so rich that many of them added 40 to 50 lbs. of weight in the first few months of admission. The kitchen was spacious and clean. It had four refrigerated rooms for preserving raw food.

Food was prepared by healthy cooks, and cyclostyled copies of the menu were issued to the patients for their information.

Religion was looked after by a Chaplain, while psychology was managed by social workers. About 400 patients were in the colony at that time, some blind, crippled or bed-ridden. Some of the patients worked as attendants for the blind and crippled and were paid for it. Theoretically men and women lived in separate blocks. Marriages were not permitted, but a few married couples stayed in separate huts. Special clinics for eye, ear, nose, throat and teeth and special departments for surgery, orthopaedics, physiotherapy, X-ray and occupational therapy, and a well-equipped Laboratory to carry out all the investigations, except biopsies, were there. Hydnocarpus oil therapy had been completely given up and most of the patients were on Promin and other Sulphones, but not D. D. S.

Living in a democratic country, the patients were free to express their own opinions on leprosy and for that purpose a monthly magazine, 'The Star', was being published. Apart from information about activities of the patients, one page in each issue was reserved to put together all the arguments proving 'remoteness of the communicability of Hansen's Disease'. The magazine enjoyed immense popularity amongst patients in all the colonies of the world, including those in Japan where very few knew English. The result is best put in the words of Dr. H. Van R. Moster of Southern Rhodesia:

"Certain propaganda from Carville in the United States circulating chiefly among European patients, advocates almost complete disregard of the infectivity of leprosy and the abolition of all restrictions; and certain members of the public are being influenced to support this view. A century ago in the old Cape Colony this so called "modern outlook" received support, was tried out, and had to be condemned. The Royal College of Physicians and Surgeons advised along similar lines in 1865, with disastrous con-

sequences in many lands. Are we to fall into similar pitfalls today? It would not be logical." (Extract from the Discussion of the Subjects dealt with in the papers of Drs. Davison and Winter, published in the International Journal of Leprosy, Vol. 17 No. 3—July-Sept. 1949, Page 262.) In an Editorial on "The Infectiousness of Neural Type Leprosy" Dr. Wade wrote:

"Throughout the whole course of events there has been an apparent reluctance to say, flatly and without hedging or compromise, that "closed" (or, if preferred, "non-infectious") cases need not be subjected to the same control measures as are necessary for the "open" (or "infectious") cases. This condition is in marked contrast with the present-day propaganda carried on in certain places by patients and politicians, which goes dangerously far to the other extreme in conveying the impression that there is no necessity of isolating any cases, anywhere." (The International Journal of Leprosy, Vol. No. 17 (3), Page 306.)

A staff of over 200 healthy workers looked after 400 patients and the annual cost of maintenance per patient was about \$4000 (Rs. 20,000). *It was the only colony in the world where patients were provided every comfort and even luxury, but still it could not wipe out of their minds the sense of being segregated.* The Carville Leprosy Colony was an excellent example to show that nothing could compensate for being taken away from the home, family and society.

I was interested in finding out how far had the colony helped in controlling the disease in America. About 30 years ago when the colony was started there were 400 patients in it. During this period 1500 new patients were admitted and at the time of my visit still 400 inmates were there. A few years ago two case-detecting centres were started, one in New Orleans and the other in San Francisco. The estimated number of leprosy cases was about 5000. From all the data I collected and from

my discussions with various leprosy workers the conclusion emerged that the leprosy problem in the U.S.A. presented the following peculiarities:

(1) The percentage of lepromatous cases is fairly high.

(2) The time-interval between onset of the disease and admission varied between 3 to 6 years. Thus before a case is admitted chances exist for an infectious case to spread the infection.

(3) The diagnosis of the disease takes a long time, especially in the early cases.

(4) Leprosy is mainly endemic in four States of the South—Louisiana, Texas, California and Florida and New York in the North.

(5) The laws relating to compulsory segregation or notifiability of a case differed from State to State.

(6) The only active anti-leprosy measure, initiated about 30 years ago, was opening the colony at Carville. In recent times two case-detecting centres were started. All other attempts were sporadic.

(7) As against the above-mentioned factors, which helped the spread of infection, during the past 50 years, conditions of living, sanitation, hygiene, education etc. had improved so much that many of the communicable diseases have been considerably controlled, and the consequent improvement in the standard of living has certainly counteracted the factors spreading the infection.

(8) The cases infected in the U. S. A. were comparatively few, while most of the cases occurred amongst those who had stayed in other endemic countries, either because they were born there or had gone there for a few years. Thus the majority of cases were infected outside America.

The leprosy problem in the U.S.A. is therefore only of a minor nature but it demonstrated:

(i) How leprosy control is linked up with the control of other communicable diseases and depends not only upon anti-leprosy

measures but also on improvement in the general standard of living.

(ii) No colony can be ideal if it is meant to be a place of permanent residence for the patients.

(iii) If not supported by a case-detecting campaign a colony by itself cannot eradicate the disease.

(iv) As long as there is leprosy spreading anywhere in the world, no country can completely ensure itself against the disease, especially when distances were getting shorter due to rapid transport.

(v) Just like other communicable diseases leprosy, therefore, has to be considered as a world problem.

VI

CROSSING TO THE WEST COAST

BEFORE leaving Carville, I had arranged for hotel reservation at New Orleans through Dr. Meyers of the Public Health Department of New Orleans. Dr. Wolcott knew the place and it was his goodness to reach me there in his car, in spite of his heavy work.

I had seen at the L & N and Union Stations of New Orleans that waiting rooms for the coloured and white population were different. Even in Washington I had seen that Negroes were not permitted to sit and eat in some drug-stores and cafeterias and although they could enter these places, they had to take away their coffee in paper-cups. Some of my friends in the North had warned me that I might have to face some inconvenience in the South. I was not sure whether I would be served coffee or food in drug-stores and cafeterias. Entering a drug-store I asked the waitress to bring me a cup of coffee and heaved a sigh of relief when I saw her coming with a glass of coffee and not a cup of paper. I was happy to be recognised as an Indian and would have continued in that blissful state had I not met at a corner on the main street a guide of the 'sight-seeing tour' who approached me speaking Spanish. From my features, he mistook me for a Spaniard. Before the end of the day the same experience was repeated at three different places, and I came to doubt whether I was served because of a mistaken identity.

New Orleans presented a particular combination of the old and the new. I selected a sight-seeing tour, which took me to the French Quarters as well as the new locality. The French Quarters have very narrow streets lined by antiquated structures built during the Spanish and the French regimes. Most of them

presented iron gates or balconies with railings and lacing but to me nothing appeared unusual, for I had seen enough of such buildings and narrow streets in India. To my fellow passengers, however, it was the most 'wonderful' sight.

As we were walking through that area what struck me was the peculiar psychology behind the preservation of such old quarters. Americans take pride in having descended from various European nations, that had migrated to America over three hundred years ago. But their nationality has become simply American which is different from those of all their forefathers and they are proud of that also. But in every large town or city there are China-towns and Italian and French Quarters etc., where corresponding sections of the American people lived separately. I was reminded of the tall talk of one world and one culture! But here I saw people living separately whose forefathers had come to America under adverse conditions and who had stayed together for 300 years. In spite of such admixture of blood and each of them proud of a common American nationality, many persons had in them more blood of one nationality than of the other and consequently in the deep recesses of their minds, had retained an affinity for the original nationality of their forefathers. Not being a conscious feeling it may not be admitted by them but the preservation of the different localities where particular groups lived, was a convincing proof that even a long and continued stay had not completely wiped off the feeling of separateness. All through our visit to the French Quarters, my co-passengers were busy enjoying the sight of the antiquated buildings and narrow streets, while I was busy with my thoughts. Whatever may have been the historical value of those specific localities, to me the 'Tomb of the Unknown Soldier' at Washington presented a stronger unifying force than those quarters in the different cities.

New Orleans is the second largest port in the U.S.A. Even

the big liners could come right up to it. Two hours spent to see the harbour by the steamer 'President', were really enjoyable. From a distance we could see the Huey P Long Bridge on the Mississippi. The city is one inch below the lowest level of the river-bed. Years ago disposal of waste water and sewage was a problem, the climate was unhealthy and epidemics were common. Later on underground drainage was constructed and pumps were installed everywhere. But I learnt that some of the houses were gradually sinking. The dead were not buried under the earth but graves were constructed over it.

Dr. Meyers met me early next morning and the whole day was spent doing medical and leprosy work and meeting some workers like Dr. Bancroft of the Tulane University, Dr. Faust, the famous parasitologist and Dr. Swan of the Marine Hospital, who was doing biopsy work for the Carville Colony. Dr. Meyers took me after dinner to see the town which was brightly illuminated for Christmas. There was a keen competition, for the best-illuminated house was given a prize by the citizens' committee. In New Orleans it is the traditional custom to take doughnuts and coffee in the French Quarters. Dr. Meyer desired I should also partake of it, and we went to the French Quarters. But the street was over-crowded and we had to roam about for ten minutes to find parking space. The restaurants selling doughnuts and coffee were frankly unimpressive but the people inside were very fashionable.

From New Orleans to Grand Canyon the train journey is very long indeed but by providing various facilities it is made equally pleasant. I could go to Grand Canyon, stay there for the day, leave at night and reach Los Angeles on the morning of the fourth day and during that whole cross-country travel I had to change the train only once. Platforms on American Railway stations do not have any stalls or vendors. There was no shouting or any unnecessary crowding of visitors. The

passengers were not in the habit of getting down at every stop. Foot-boards were so high that the porter had to place an additional step on the platform to facilitate getting down but more interesting was the porter himself standing near the step, slightly bowing and repeating musically "Watch your step", with his hand ready for the tip. It must be noted here that our porter had two cars, one for himself and the other for his wife. American trains are not 'classless', though they do not have the labels on the compartments. The least expensive mode of travelling is by the 'Coach', which resembles the second class compartments running between Bombay and Poona, Passengers travelling by coach do not have any sleeping arrangements. 'Pullman' car is the next higher class, where you can sleep at night, and a porter for each car attends on the passengers. The berths are provided with soft mattresses, blankets, pillows and scrupulously clean bed-sheets and pillow-covers, which are changed daily. Each berth is surrounded by a thick-zipped curtain. Inside the small private chamber thus created, there are reading lamps, hangers, a call-bell and heating arrangements. In the train I usually got up very early and I had occasion to hear the musical porter waking me up. Shoes kept under the berth at night were found polished in the morning. The still higher class, a 'Roomette', is a self-contained cabin about 7' x 4'. The highest class is the 'Room' in which a family can travel as comfortably as if at home. The dining cars are in the same style as in Indian trains but they are far cleaner. There is a lounge car, which is almost like a well-furnished room with a small bar in a corner. Railway fares for the lowest class are about three times the second class fares in India and if Indian trains were styled on these lines only a negligible fraction of our population to-day can travel by trains. Travelling by American trains is so comfortable that I was not tired at the end of a couple of days.

I passed through widely differing country-side in the States of Louisiana, Texas, New Mexico and Arizona. Near each

farm along the railway were seen houses with electricity, a motor-truck or a car and a pump. Near some of the houses there was a small airport with wind socks. Occasionally I could see small planes also. On inquiring from other passengers I learnt that some of the agriculturists found it economical to have their own planes to ensure quicker transport and more business.

Some of the areas through which I passed were almost desert-like. In some regions the railroad was running parallel to the Highway and at a few places I could see crashed motor cars on the road. In fact in our compartment one passenger was carrying the dead body of his brother who had met with a motor accident the previous week-end. For hours together I was sitting all alone in my seat and had sufficient time to review what I had seen and learnt in America.

Communications are so rapid that the diet, dress, and living habits in general have become the same all over the country. Those who migrated, being all of the same status, had to think in terms of equality, community and their common interests in the development of their country of adoption. Fortunately for the Americans, they had good men to lead them and all those factors had resulted in a very rapid development of the country. The Americans had learnt to depend on each other rather than on the Government and many of their projects for the community were based on that principle, so that they learnt not only not to expect help from anybody else but to exert themselves or pay for progress. In that way large bridges, dams, roads, schools, hospitals etc. were constructed and people learnt to pay to maintain them.

The wealth of the country was the result of their efforts. The glamour of their high standard of living was dazzling to those who did not want to go deeper for its causes. But that glamour had a great stimulating effect on me and instead of creating frustration, it pointed out to me the way the poor countries had to adopt, if they wanted to progress. In spite of

the raised standard of living, poverty had not yet been abolished in America. Neither were all other problems solved. To add to that, new problems were arising out of their pattern of economy and world situation. In spite of wide-spread literacy, majority of the people were not well informed about conditions in other countries and in that sense they were living in isolation from the world. The family was a closely knit unit but even there the conditions were changing with the social environment.

Grand Canyon we reached very early in the morning. A limousine came to fetch us to the El Tovar hotel, which was so near the station that a car was not necessary. It was one of the costly hotels, but to create the feeling of being somewhere outside usual American cities, it had been built in an archaic style of architecture, with furniture specially designed to match. Treading through snow, we wandered all over to see the changing colours of the deep valleys under the rising sun. The weather was crystal clear and we could see very well Nature's unimaginable work of billions of years. The Colorado river has eroded the plateau vertically and it appeared as if the ground suddenly stopped short. The tortuous valleys are about 217 miles long. The width is about 4 to 8 miles and height about one mile. The Colorado, winding its curved course at the foot of the hills, was seen only here and there. Later we went to the Eastern and Western sides of the Southern Rim, making halts at interesting points, to view the enchanting spectacle.

Covering about 80 miles in our tour during the day, we returned to the hotel in the evening to witness a Red Indian Hupi Dance. I could understand neither the dance nor the music accompanying it but was content to see the Red Indians with their head-gears.

Passing through California next day, I saw orange-gardens on both the sides showed every tree over-loaded with fruit, a sight which I had never seen in India. Such heavy yield is due

not only to the good soil, manure or husbandry, but the business psychology of the American, who believes in investing before reaping. In fact, American businessmen have made their capitalism different from that in other countries. In most of the places I found the man in the street happy with the businessmen and their system of re-investing profits in bettering the conditions of the workers and founding research institutions for the betterment of the industry in general.

I had no medical work at Los Angeles and spent two days entirely in sight-seeing. Organising sight-seeing tours is a big business in America and in every large town there are found guided tours. Leaflets about different tours are freely available and the visitors can select any number of convenient rounds. In most of the large cities there are guided tours to see the night life as well. There is also a "U-drive" system in many of the larger towns, which proves a great help to those who want to finish their business in a short time. A car with the key is handed over at the Railroad station, hotel or airport, so that the customer can use it as if it were his own car. In many places a system of lodging places, called 'Motels', helps families out on a long motor-journey. They are fairly popular as they are cheaper than hotels.

The city which I liked most in America was, of course, Los Angeles. On the sea shore it is spread over a very large uneven expanse. Streets stretching for miles together are steep in some places. There is plenty of vegetation everywhere. The outskirts of the town are on sloping land so that some of the garages formed roofs of houses on the lower level. 'Park In' place is another American innovation. There are 'Park In' theatres, where you can see the picture while remaining in your car, 'Park In' coffee houses, hamburger shops, shoe-shine shops and in some places even banks.

Hollywood has many movie studios and we could see one through the courtesy of the tour-management. On our way we

passed a very large Horse Ranch, which was there only for the benefit of the motion picture industry. Amongst various places we visited in that area, the Hollywood Bowl is quite special. It is a circular open air theatre, with seats fixed in separate small compartments along a slope. The stage itself is spacious enough and is covered with a roof like a baby cap. Gramman's Chinese theatre has foot-prints of many of the stars in the cement flooring of the compound. Many of the movie stars have their own homes almost like dolls' houses with huge gardens round them. Each has a different design and no two were alike. Will Rogers has left behind his home which has become almost a place of pilgrimage for the visitors.

By the night Pullman I left for San Francisco. Of my two days' stay there, one was spent with Dr. Herman Gray, under whom a field unit did anti-leprosy work. Dr. Gray has collected very interesting material about the cases. At night I went to see the excellent show-rooms in one of the town's finest hotels on the Nob Hill, from where we could have a panoramic view of the whole of San Francisco at night. The Pacific has here penetrated the land in the form of a Y, separating it into three regions. The area to the South is San Francisco. In the wedge are Oakland and Berkley, with the University of California, and many industrial and residential houses. To the north is Marin County. San Francisco is connected in the North with Marin County by the Golden Gate Bridge which has the longest spans in the world, and with Oakland and Berkley in the East by another bridge which is $4\frac{1}{2}$ miles long with a six-lane vehicular traffic. I had selected an 80-mile tour covering in $7\frac{1}{4}$ hours interesting places in all the three areas.

My last night in the U.S.A. was spent with Dr. Gray at his home, and I am highly obliged to Dr. and Mrs. Gray for their hospitality.

VII

IN HAWAII — THE PARADISE ISLANDS

ON the morning of 31st December, I was waiting at the San Francisco airport to leave for Hawaiian Islands, 2400 miles away and still the territory of the U.S.A., needing no passport or visa. Our PAA double-deck Clipper took off at 11 a.m. bound for Honolulu. Though the flying-time was 9½ hours, I had nothing to worry about as amongst the passengers were many Americans. After reading for sometime I went down to the club lounge on the lower deck. It did not take me long to become a member of a small party of five, each of whom belonged to a different profession. When I joined the party, a young Hawaiian girl returning home was singing Hawaiian music, and after a few songs started dancing the 'Hula'!

After sunset we landed at Honolulu and I received a Hawaiian welcome from the air-hostess. I was eager to meet Dr. Hirschy, Chief of Division of Hansen's Disease. But as I did not see him there I proceeded to the Alexander Young Hotel, where a room was reserved for me, and where Dr. Hirschy came almost immediately, for he had reached the airport only a little late. The hotel being on the main street, I could hear the noise outside, even while I was talking to Dr. Hirschy and after he left, I decided to go out and see Christmas Eve celebrations. Being the main shopping area, the street was illuminated and crowded with American sailors and soldiers as well as Hawaiian and American men, women and children. There were numerous automobiles, Police Patrol Cars and Military Patrol Jeeps, all noisily blowing their horns. A free display of fire-crackers added to the noise. Gramophone records were being played in the drug-stores and coffee-houses, while the Ball-Rooms and Dancing-Halls reverberated with

orchestras and bands. Every shop was and all the Bars were all full of men and women. Doors of the Bars, Ball-Rooms and Dancing-Halls were partially closed and guarded by well-dressed sturdy-looking persons. I had seen many such places in America, but not guarded like that, which did not create a pleasant impression. In the hair-cutting saloons, Hawaiian women, clad in white aprons, wielded their scissors efficiently. The crowd was increasing gradually and getting more and more released from usual inhibitions. The Military and Navy Patrol Jeeps rushed to help their own men, who were no more able to walk.

I spent a couple of hours watching the people but finding no change in the scene, returned to my room where I could still hear the noise and appreciate as well that it was increasing up to its zenith at midnight. There were whistles, sirens, bells, fire-crackers, horns and commotion of voices. Thus was ushered in the New Year for me and for the people in Honolulu. Next day at 9 a.m. I was again on the same street, as on the previous night but the whole scene had completely changed and the street appeared forsaken. It was strewn all over with red tags, the earthly remains of the fire-crackers. Except for two or three coffee-houses, all shops were closed and though the coffee-house I entered was small it was empty and I had many waiters to attend on me.

I went with Dr. Hirschy to Hale Mohalu Colony in Pearl City, about 12 miles from Honolulu, where I was invited for the New Year Day's lunch with the patients. Every year that day the patients and the healthy staff lunched together but the tables were kept separate. I have always enjoyed being with the patients, but I am not happy with them in such 'common' functions. As long as we believe in segregation of the infectious cases, and as long as the healthy workers and the patients

do not share the same seats, I do not know what effect such functions have on the patients. The dishes were Hawaiian and I ate more out of curiosity. After lunch, I had to talk on 'Leprosy Problem in India'. Emphasising the importance of segregation I explained how the economic conditions in India did not permit segregation of all our infectious cases. I encouraged the patients to ask me questions and I was glad that many of them responded.

Late in the afternoon, I went to Waikiki, which is one of the fashionable localities in Honolulu. It is about two miles from the downtown and within easy reach by a 'bus, which ran frequently. Waikiki has a beautiful beach, with a row of the most expensive Hotels enclosed by beautiful gardens. There were very few people about and it was very quiet and peaceful. I thought of my pilgrimage next day to the place where once Father Damien had lived.

Dr. Hirschy had made all the arrangements for me including an airway permit and Dr. Buzzelli, who was in charge of the Leprosy Settlement on Molokai Island had already been informed. I admit I was disappointed to see the small plane. I sat near the young pilot but was not sure about the performance of the plane, which had accommodation for only five passengers and the machine looked rather old. The pilot sensed my uneasiness and told me with great pride that during the last 18 years of their service to Molokai, they had not had a single accident. He was very confident of his machine and talked highly about its performance, which soothed me sufficiently to enjoy the flight and as we were flying low, I had a good view of Honolulu. The distance between Honolulu and the Settlement is about 55 miles only and within half an hour we made a perfect landing. Dr. and Mrs. Buzzelli gave me a very friendly reception at the airport.

Dr. Buzzelli had completed his medical education in Italy but migrated to America in 1948. He had gone to the Settlement only two months before I visited that place. Mrs. Buzzelli, an American-born Italian, is a good musician and has the looks of an artist. Lunching with the Buzzellis, I went with them to Father Damien's resting place in the cemetery.

The Hawaiian weather is very uncertain and though it had been clear when I landed, the rain came after the lunch. Molokai Island is rectangular, about 40 miles long and 8 miles broad, the longitudinal axis being east to west, so that the longer borders face north and south. From the centre of the northern border, there is a triangular projection of the land, on which is situated the Leprosy Settlement. The base is about 3 miles from one end to the other and is bound on the south by hills ranging from 1000 to 3000 feet in height, separating this piece of land from the main island. The north-eastern and north-western borders of the triangular area face the Pacific. The distance from the apex to base is about 2 miles. At the apex are the airport and light-house. The new Settlement at the base, lying between the hills and the western shore, is known as Kalaupapa Leprosy Settlement. Towards the eastern end known as Kalawao, there used to be the old Settlement, where Father Damien lived and died. Kalaupapa and Kalawao are connected by a road.

The first boatload of patients, 25 in all, was sent to the Kalawao Settlement on the 6th January 1866 and Father Damien arrived there seven years after. In the same year a few huts belonging to the inhabitants at Kalaupapa were handed over to the patients. Thus both the places—Kalawao as well as Kalaupapa—were developing simultaneously but in the first few years Kalawao developed more. Although the 'segregation act' had been passed and patients were sent to Kalawao, the Government did nothing for them and they had to look after themselves. Food was inadequate, shelter very

poor and insanitary and water had to be carried for miles from a small stream. When Father Damien came, he improved their lot through his own efforts as well as by bringing pressure on the Government. His greatest achievement was to arrange for the water-supply and get a doctor to look after the patients. The weather at the Eastern end i.e. in Kalawao being very cold and damp, the patients gradually started shifting to Kalaupapa. The whole Settlement then came to Kalaupapa, and nobody lived at Kalawao. But the Church (completed in the time of Father Damien) and his resting place were in Kalawao and they were made a Territorial monument to his memory. Father Damien's body was removed to Belgium in 1936 i.e. 47 years after his death but his grave was being preserved there. In the cemetery were a few other graves of those workers who had died there.

In the evening Dr. Buzzelli took me with him on a round of the Kalaupapa Settlement. Staying on an isolated island 55 miles away from Honolulu the patients as well as workers were provided all the facilities by the Government. The Andrews Company ran two air services daily, carrying newspapers and other necessities. Petrol and other heavy articles were brought by small steamers, but the coast being rocky and the sea very rough, there was no regular service. About 60 healthy people were staying in the Settlement, but no healthy child, below 12 years of age was permitted to go or stay there. Workshops were conducted by the patients. All amenities had been provided including a theatre, where pictures were run twice a week. Entertainers and artistes used to go there from Hawaii and in fact I had seen one party returning to Honolulu that very morning. The Government provided medical care, food, housing, clothing and recreation free. In addition a pocket allowance was given to every patient. Those who worked for the Settlement were paid for the work.

There were active as well as 'arrested' cases, married

couples, and blind, crippled and aged people, but housing arrangements differed for each group. About 60 % of the patients were lodged in what were called 'Unit Homes'. Each 'Unit Home' consisted of a block with a number of single seated rooms and a central dining hall. There were four such 'Unit Homes' and each was known after somebody. There was Baldwin Home for men and boys, Bishop Home for women and girls, McVeigh Home for married patients, and Bay-view Home for the blind, aged and crippled patients. The remaining lived in small independent homes with the dining room and a kitchen, which were provided free.

The patients were free to conduct independent enterprises and earn money for themselves. Some of them were earning \$250 to \$300 per month and still they got everything else free as patients. They had their own agricultural and dairy farms, poultry houses or fishing business. The produce was sold to the Government, and used by them again for the patients. Many of the patients had their own automobiles. At the police station, all the staff-members were patients. I visited many of the 'Unit Homes' and saw the rooms. They were well-furnished and many had radio-sets. Among the patients I met a talented musician and another, who had a private licence to broadcast. He had made many friends over the air and every morning he used to have friendly chats with people miles away from him. The healthy medical staff consisted of one doctor, six sisters and six nurses. In addition a number of patients were engaged as helpers on payment. Of course, there were other staff-members like chaplains and clerks.

Dr. Buzzelli insisted on my giving a talk to the patients at night, and arranged for it in the theatre. The patients were being looked after so much better than their counterparts in India that I thought they were happy and had nothing to grumble about. But from their questions which I invited at the end of my speech, I realised that there were two groups; one was

against segregation, while the other wanted the Kalaupapa Settlement to continue. I could very well see that the first group was influenced considerably by the 'Popular' literature and its opinion did not surprise me. But the reaction of the second group was rather unusual and soon I knew the reasons for it. The Government had been maintaining the Kalaupapa Settlement on a separate island for a number of years but having realised what it meant in terms of money, they had started a colony on the main island with a view to transfer the Kalaupapa-patients gradually to the new colony, and ultimately close the Settlement completely. Some of the patients, who had established themselves very well in the Kalaupapa Settlement, did not want to leave that place. The history of the Kalaupapa and Kalawao Settlements was worth studying very carefully, for in it I found the various changing phases of the leprosy problem and the reactions of the patients, society and the Government.

Next morning I was taken to the 60-bedded hospital wards, where bed-ridden patients were being treated. I wanted to know if there was anybody still living, who had seen Father Damien. To my surprise I learnt that an 80 years old woman, who had come to that Settlement when she was 13 years old, had been there in Father Damien's time. I went to see her but she was deaf and never talked except on very rare occasions. Obviously my visit could not be one of them.

VIII

HONOLULU

THE Hawaiian Islands are eight in number of which Hawaii Island is the largest, but Honolulu, the capital of the Hawaiian Territory is situated in Oahu Island, which is the third in size. There is a regular air service between the various islands and through a travel-agency a convenient tour of any number of islands can be arranged. Of my ten days' stay, I was to devote six days to leprosy work and the remaining to sight-seeing but as these were alternating, I had to be content with touring only the Oahu Island. The weather in Hawaii is peculiar, in that there is no day without sunshine or no month without rain. The weather is humid throughout the year. The Hawaiian Islands were first discovered in the year 1778, by Captain Cook, who died there the next year. But when the question whether to join the U. K. or the U. S. A. came before the Hawaiians, they preferred the U.S.A. to the U.K. and since 1900, it is known as Territory of Hawaii, U.S.A. With a close association of fifty years with the Americans, the American way of life has naturally spread widely in Hawaii and Honolulu looked almost like an American city, except for the fact that there the Americans were very few.

In hotels, streets, drugs-stores and other public places, I could easily differentiate between the Americans and the others. Some were brown with coarse skin and thick broad noses and some having softer skin varying in shade from brown to fair but the noses were rather smaller with thin *alae nasi*. But there were so many combinations that it is difficult to describe the physiognomy of all. The lady at one of the counters of my hotel looked like an American and the bell-boy looked like a Chinese, but both of them told me that they were Hawaiian.

The maid-servant had a face almost like a Japanese. Seeing so many different types, I was curious to know the origin of the people. The first census done in 1832 had showed that the population then was mostly Hawaiians, but the census of 1950 has showed that in round figures the total population is 466,000 with 40% Japanese, 19% Hawaiian and part Hawaiians, 17% Caucasians, 13% Filipinos and the remaining were Chinese and others.

I went out in a sight-seeing tour, but instead of the usual bus, we had three sedan cars, so that the touring party was split into three groups. Our first stop was at the Queen's Palace built on a very beautiful site, with big lawns and gardens around it and a stream just behind. The building itself was huge and contained many costly articles and furniture. The countryside of Hawaii with its natural beauty is indeed fascinating. We passed through hills covered everywhere with trees and flowers, through pineapple and sugar-cane fields, coarsed along long stretches of roads by the seacoast, saw deep valleys and extensive lakes, and visited Hawaiian Coral shops located in huts. During the return journey we stopped at Pearl Harbour to see the masts of the two large cruisers which were sunk in the World War II. The Hawaiian driver of our car seemed to be well-read and even critical. The sight of a number of people working hard constructing buildings in one of the new sections of Honolulu spurred him on to inform us that the Hawaiians of Japanese descent were very hard working. They worked, earned money, bought lands, constructed houses, sold them to others and thus again made money. He did not seem to like them. He was cursing his own clan for being lazy and was happy with the Americans for all the good they had done to his country. It was his considered opinion that his country had progressed mainly because of the Americans. He was not in favour of making Hawaii the 49th State of the U.S.A. and rather favoured the idea of treating it as a Territory of U.S.A.

His views were surprising for I had learnt that the Republicans, when they were not in power, wanted to make Hawaii the 49th independent State of U.S.A., but the then ruling Democrats had been persistently opposing it on the plea that the federal taxes, which Hawaiians would have to pay as an independent State, would be too heavy for those people. Our guide-cum-driver did not mind paying the federal taxes in an independent State, but he argued, "You see, we Hawaiians are lazy and only in a minority. At the polls the Japanese, who are 40% of the total population, will win and the ruling party will be theirs. As it is, without power, they are so dominant everywhere, what will happen to us if they get power?" Naturally, at the Pearl Harbour, he gave us a vivid description of what had happened there at the time of Japanese attack.

Having travelled for the whole day I had planned to pass my time reading something. But at six o'clock I received a ring from Mrs. Johns, with whom I had formed an acquaintance during the tour, inquiring whether I cared for a 'Luau dinner' that evening. I did not know what a 'Luau dinner' meant but as she wanted me to go, I accepted the invitation. The Johnses were to come and pick me up in another half an hour. Had I been alone I would not have gone in for a 'Luau' but with the Johnses, my newly acquired American friends, to guide me, I could take a chance and I thanked them for their kind consideration in that foreign land. When we reached the hotel, which was famous for 'Luau', I found there over 150 persons, mostly Americans. The crowd was in a gay mood. 'Luau' was a special Hawaiian feast of a pig—Kalua—placed in an underground oven at about 3 p.m. and taken out at night and served hot. Loudspeakers and lights were arranged near the underground oven. With glasses in hand, people gathered to listen the running commentary and when uncovering the pig started the cameras also started clicking. All the preparations were

Hawaiian and they were served in a Hawaiian way. The Dining Hall was made out of grass, food was served on plantain-leaves placed on small desks, so that people had to squat. After the dinner came a Hula dance with the accompaniment of Hawaiian music, and the dancers in grass skirts. The Hula appeared to be moving of hands and swinging of hips, as if the upper half of the body had nothing to do with the lower. I was told that every gesture in the Hula had a meaning, so that following one after another they told a continuous story.

On Monday, I had plenty of work to do. Starting with an introduction to Dr. Edwin K. Choong Hoon, consultant to Leprosy Colony and Clinic, the morning was spent with him in the Leprosy out-patient clinic in St. Francis Hospital. The clinic was very clean, well-equipped and well-attended by patients, who were mostly bacteriologically negative. Dr. Choong Hoon was assisted by a doctor and a nurse and so detailed data could be kept. After lunch I went to the Publicity Department of the Board of Health. The Department published scientific information on important subjects, from time to time, in simple non-technical form. For the last few years the Department of Health was publishing a monthly pamphlet 'The Hawaii Health Messenger' giving useful information and instructions to the people. Lately they had started a similar quarterly pamphlet giving information about anti-leprosy activities at Kalaupapa and Hale Mohalu. Later Dr. Hirschy took me to the Tuberculosis Preventive Unit, where I spent about two hours. That was also the headquarter to which the patients were referred to for diagnosis and treatment. All the statistical data, collected there indicated that tuberculosis was declining.

As previously fixed I went next day with the Johnses on a tour to Mount Tantalus. From there we could see the pano-

rama of the city from Pearl Harbour to the southern-most point. Other interesting spots were an extinct volcano crater (Punch Bowl) and a Grass Stack, where it was said Robert Louis Stevenson had lived. Late in the afternoon I went again to Waikiki beach, which that time was very colourful, with men and women busy at being masterly inactive. For the first time I also saw something of surfing. Taking the surf-boards deep into the sea, the swimmers stood on them and moved on along the waves towards the shore, but many fell down, while others more careful or less courageous, preferred to lie flat on the board to save the fall.

The earliest reference to a leprosy patient in Hawaii was in 1820 and gradually as more and more cases were detected they enacted a law for compulsory segregation in 1865. As segregation was done at Kalawao the Government had to keep a receiving station on the main Island. The receiving station was ready in November 1865 at Kalihi-kai. After detection, the patients were first detained at the receiving station for some time and once a month sent on to Kalawao. Realising that the receiving station was isolated and expensive to maintain, it was shifted after ten years to a place near the city. From there it was again shifted after six years to another place which was near the sea, on a low level. But the new place was repeatedly flooded at high tides and after using it for eight years, the station was shifted back to Kalihi-kai, where it functioned till they started a colony at Hale Mohalu, near Honolulu.

141 cases were detected in the first year of the Act but it appears that in the first few years, in spite of a number of cases at large only very few were being detected. This was corroborated by the fact that a few years later in 1900, there were about 2000 cases in segregation. According to the figures available the maximum number of cases detected in a year was in 1888 when it reached 579.

The following figures are instructive:

DISTRIBUTION OF PATIENTS

	<i>In segregation</i>	<i>In O. P. D.</i>	<i>Total</i>
1931	610	135	745
1941	433	135	568
1951	330	117	447

In the beginning, segregation was done at Kalawao (Eastern end) and later on in Kalaupapa (Western end) on the island of Molokai, and a receiving station was maintained at Kalihi-kai near Honolulu. But when the Government realised the difficulties of maintaining a colony on a separate island, a colony was started at Hale Mohalu near Honolulu with a view to gradually close Kalaupapa Settlement and also Kalihi-kai and admit new patients at Hale Mohalu. The following figures of the patients isolated in various colonies demonstrated how Kalihi-kai was gradually closed:

PATIENTS IN SEGREGATION

	<i>Kalaupapa</i>	<i>Kalihi</i>	<i>Hale Mohalu</i>	<i>Total</i>
1931	435	175	Nil	610
1941	350	Nil	83	433
1951	240	Nil	90	330

At the time of my visit to Kalaupapa there were about 240 patients, but only 160 were active while the rest were 'arrested' cases.

My visit to Hale Mohalu Colony was arranged on a Wednesday because that was when Dr. Choong Hoon visited the colony. He picked me up at my hotel in the morning. At the Colony I met three doctors, from the Triple Hospital for Army, Navy and Air Force personnel, who had come to the colony for training in leprosy. After seeing some interesting cases, I was left

to Dr. Hitchcock, in-charge of the colony, to go for a round of the colony. Residential arrangements for the patients were quite satisfactory. The married patients got separate family quarters but those who were married to healthy persons were permitted to have him or her in the rooms occasionally. There was a school for the child-leprosy patients and the teacher also was a patient. The children looked quite cheerful. There was a Church, a play-ground, a hall for indoor games and a theatre. Twice a week or so, the patients went out for night tours in the buses, specially maintained. In Honolulu, a beach had been reserved for the patients so that they could go for a swim or picnic. To look after 100 patients in the colony there were 45 healthy workers including sisters and nurses.

My previous speech, in which I had emphasised segregation, had created some commotion amongst a section of the patients. They wanted to ask me some questions and I had been approached with a request to answer them. In the lecture-hall I faced the eternal question, "What proofs do you have to say that leprosy is infectious?" In every country which I visited I had to answer the same question and the logic behind asking it was the same everywhere. Did the leprosy patients in all the colonies, in all the countries, think exactly alike and almost in the same words? Or was there a common source which propagated the information so systematically that it took a firm grip of the minds of the patients everywhere?

In the evening I was invited to dinner by Mr. and Mrs. Judd and for four hours we exchanged views on leprosy. Mr. Lawrence M. Judd is about 60. His family has been in Hawaii from 1820. He told me that in his college days he used to see boat-loads of leprosy patients being sent to Molokai Islands. He was Governor of Hawaii from 1929 to 1934 and during his regime he organised the colony at Molokai and Honolulu. After retiring from the post, he worked as the Superintendent of the Kalaupapa colony for 2 years.

To the Waikiki Beach which by then I had visited at all times of the day I went one morning in the hope of completing my observations there. After the sun rose in the sky for at least a few hours, people staying in the hotels in the beach area, walked to the beach in special costumes, bare-feet, through the customary crowd on the streets. They were equipped with books, magazines, chocolate, chewing gum and so on. Amongst them were more women than men. Convinced that the sand was sufficiently hot they took up a horizontal position, lying on their backs with the arms usually extended. That position was maintained for a few minutes to a few hours, depending on individual requirements. A few in addition preferred to cover themselves with a thin layer of hot sand. The basic principle of designing the costumes appeared to be that the wearer should expose as much of her person as possible without embarrassment. But the designers had tailored them so ingeniously that their efforts had resulted in shifting the point of embarrassment, which had possibilities of shifting further still as it had not yet become stationary. Having exposed the front for a good deal of time, the holiday-makers turned on their faces. What I witnessed was a 'Sunbath' in which the skin was 'exposed to the actinic rays of the sun' so that by a 'physio-chemical process the fair skin changed to tan', and gave the look of a 'Sandwich Islander'. The further follow-up showed that very few had the correct shade, for in most of the cases the process was so over-done that the skin looked more scorched than tan with actually peeling off of the epithelial layer.

In the afternoon I visited some places, where the Board of Health was running organised Health Services for the whole territory. I had already seen the Tuberculosis Preventive Centre and with Dr. Hirschy went to three other centres, one for cancer, one for Heart Disease and one for Venereal Diseases. All of them played a vital role in public health activities but during

the short time at my disposal I could not study any section in detail. Of these, the Venereal Diseases centre showed an increase in the cases and the new cases were mainly being detected in the Filipinos, who had come there as labourers without their families. The source of infection was traced by getting the history from the patients.

One of my pleasantest evenings in Honolulu was spent in hearing Dr. Selman A. Waksman's lecture. After receiving the Nobel Prize for Medicine in 1952, he spent a few days in Japan and then came to Honolulu, where he spoke to the medical profession. I was also invited to hear the story of the discovery of Streptomycin from the lips of one who discovered it. Born in Russia, he went to the U.S.A. at the age of 22 and became an American citizen. It was a treat to hear him speak for over an hour about the experiences of his work on microbiology and soil bacteria, which were the original subjects of his study.

Studying the leprosy problem in Hawaii I realised that during the last 50 years the incidence had gone down considerably. The following figures showed that change:

<i>Year</i>	<i>Population</i>	<i>Total cases</i>
1900	154,000	2000
1951	466,000	447

The factors responsible for this decline in the incidence were many. The standard of living and health conditions in Hawaii were very much better than what they used to be fifty years ago. The bell-boy in my hotel got about \$100 as tips every month in addition to his usual salary of \$150. He used to come to the hotel in his own car. His was not an exception for when I moved through the city I could see signs of good sanitation and the high standard of living of a considerable proportion of the population. Educational facilities had also improved. Measures against leprosy had actively been taken by

the Government and I was convinced that they had spent well and received the return in the reduction of the incidence.

“Was it still a Public Health problem?” The Division of Hansen’s disease of the Department of Health believed that it was and I also agreed. From the few enquiries I had made there, I learnt that many of the new cases were being detected in the Samoans, who were immigrating to Hawaii as labourers. My impression was that the Government, along with their usual control measures would have to pay special attention to that group some day.

My stay in Hawaii had been very useful and pleasant too. I had sufficient time to meet the leprosy workers and to see various institutions. I should not compare the natural beauty of Hawaii with India, but I can say that except for the volcanoes, active and extinct, every charming sight in Hawaii can be seen in India.

On 11th January I left Honolulu but at that time the bird’s-eye view of the place was very much different than the one I had seen while landing, for the whole place looked very quiet.

IX

TO TOKYO

WE had left Honolulu at 2-30 in the morning and our next stop was at Wake Island after 9 hours of flight.

Wake Island is only about two miles by one and before landing, we could see the whole of it. By my watch we landed there at 11 a.m., but the airport clock showed only 9, which was the Wake time. We had thus gained two hours, but for that small gain, we had lost one day, for crossing the imaginary International Date Line. The island was all barren with hardly any vegetation. Some of the houses showed effects of the strong gale which had passed over the previous week. Natural water was not available anywhere and the island was so flat, that the highest point was only 21 feet above sea level. Large distillaries of sea water had been installed for its 500 inhabitants, who stayed on only because they served in the Airways, Army, or Oil companies. It was very hot and dry there.

But in the afternoon the weather changed almost suddenly and we found ourselves in very dark clouds. The plane started bumping and tossing about and there was no hope of any change. We were flying at 14,000 ft. and if we had gone higher up the weather would have been probably different. On enquiring from the air-hostess, I learnt that our clearance was only for 14,000 ft. while the planes coming from Tokyo had a clearance for 21,000 ft. It meant that even in the vast air ocean it was necessary to follow the traffic rules as strictly as on the streets. In the heavy clouds visibility was so low, that I could hardly see even the outer half of the wings and naturally preferred bumping to dashing against any plane. In flying over Japan, we had come so low that at places we could have occasional glimpses of the ground lights. Having been continuously over

sea for so many hours, the first sight of land was indeed consoling. But on seeing the mountains I thought that in such poor visibility, the sea was preferable to the mountains. To speak the truth, nothing was preferable to a smooth flight.

As soon as we got out of the plane at Tokyo I had my first taste of the biting Japanese cold. I was expecting somebody to receive me because my greatest fear in Japan was about my inability to speak or understand the Japanese language. To add to that, nobody seemed to have come to receive me and even if somebody had come another difficulty was how to identify him. With my first experience in New York I had learnt the technique of identifying the unfamiliar host. At New York airport while I had been standing in the queue in the immigration department, I saw an American waving at me from beyond the cordon. Not expecting anybody, I thought it wise to ignore him. But in a few seconds, the gentleman came near and introducing himself as representative of the American Express, informed me that his Bombay Office had instructed him to help me at the airport. Since then I had become a great respecter of the waving hands and at Haneda airport, Tokyo, I was again on the look-out for them. While waiting for my turn in the immigration queue, I saw two hands waving at me. On following the hands to the owners, I saw two smiling Japanese faces and noticing that I recognised them as my hosts the smile became broader still. I learnt that the two were Dr. Sonne, assistant to Dr. Omura and Dr. Miura, the interpreter.

Dr. Miura, who is primarily a medical man, was to act as my interpreter, because he speaks English well. He was with me almost throughout my stay in Tokyo, and it was only through him that I could talk to people. Neither Dr. Sonne nor Dr. Miura presented all the typical physiognomical characteristics of a Japanese of my expectation. Dr. Sonne's friends felt that he resembles Subhas Chandra Bose very closely and I also agreed to the opinion. Dr. Miura is a bit tall for a Japanese.

From the airport we motored to the city when I had the first glimpses of Japanese streets and houses. Although it was raining, the streets were full of people, some of them with white masks covering their mouths and noses. I observed the peculiar custom throughout my stay in Japan and learnt that those who suffered from cold used the mask to protect others from infection. Was it also creating a sense of safety for the wearer who understood what cold did to such a nose?

Next morning I was taken to Dr. Omura's office, which presented an unimpressive appearance and nowhere could I see any evidence of that cleanliness which I was to see later in their homes. But everybody was smiling, courteous and helpful. Within five minutes of my taking a seat, the ladies used to bring a cup of green tea for everybody. The green tea is not green but faintly brown, without milk or sugar. I had expected Dr. Takehisa Omura, the Chief of National Sanatoria Section, Bureau of Medical Affairs, Ministry of Health and Welfare, to be an elderly gentleman with a grave face, but to my astonishment he is probably only a few years older than Drs. Sonne and Miura.

In the afternoon I was taken to the National Leprosarium Tama Zensho-en, about 35 miles from Tokyo and of which Dr. Y. Hayashi is the Director. Along the road I could see a number of typical Japanese villages, where I saw everybody working, even the women carrying heavy loads on bicycles. The colony had about 1200 patients. I examined many of the cases and for the first time saw the typical alopecia of the scalp in some of them.

The dinner at Dr. Hayashi's home consisted of 'Sukiyaki' and was accompanied by 'Saki'. On entering the house, we took off our shoes to put on the soft rubber slippers kept there and passing through a number of rooms reached the dining Hall. All the floors were completely covered with thick padded grass mats. The house seemed to be made of wood. The walls,

windows, doors, the floor and everything else in the room were scrupulously clean. For dinner, we squatted on the ground in two rows facing each other. In front of us were small iron ovens, pans, some bowls, eggs, onions, vegetables, sugar, a special Japanese sauce, slices of pork and chop sticks. The food was cooked as we were sitting there. With the chop sticks the morsel was taken directly from the pan and dipped in the egg bowl. This is 'Sukiyaki'. I could not use chop sticks and was given a fork. 'Saki' is a Japanese wine, brewed from rice, and taken hot and undiluted. 'Sukiyaki' is usually accompanied by 'Saki'. The last dish, rice in green tea, was served by the ladies from behind each person. That dinner was a novel experience for me.

Dr. Hayashi has been working for a number of years on changes in bones due to leprosy and also published a few papers. He discussed with me in detail every specimen of bone with its X-ray and microscopic appearances. Some of the changes observed by him are difficult to interpret with our present knowledge, but as he has yet to complete the work there is a hope that the appearances will be interpreted in future. In discussing other aspects of the leprosy problem, he emphasised segregation and vasectomy, but on realising the economic conditions of India and her leprosy and other problems he could appreciate that India had to tackle her problem in a different way.

On return from Dr. Hayashi's leprosarium, Dr. Omura and his friends took me for dinner to a Japanese style restaurant. Its doors were small, closed and unimpressive. In fact, I did not even realise that I was entering a restaurant. A lady in a beautiful Kimono led us to a room, after we had put on the slippers. The building was made of wood while the rooms were decorated in a simple manner. In the centre of the room there was a painted square desk under which was a small earthen brazier. This was a sort of waiting room, where we could sit and chat while a lady in attendance served drinks. Instead of

standing, she sat on bended knees near us and joined in our talk. She was thus a hostess rather than a waitress. After about half an hour we were taken to a large room, which combined in one the dining hall and kitchen. The arrangements for cooking, serving and eating were almost like those in an American drug-store. The cook, who was very clean, handled everything with the chop sticks. On receiving the order for fried shrimps he went into action and the shrimp came from the frying-pan directly to our dish. He seemed to be enjoying my inquisitiveness, for I asked hundred and one questions to my friends and each time he smiled without understanding what I said. I did not have to pay the bill but found out that it was 1000 yen or \$2½ i.e. about Rs. 13 per person. After dinner we walked through the Ginza street, the Broadway of Tokyo. Later we went by a subway to the theatre area, where there were about 25 theatres in one street.

15th of January was a National Holiday, called the Adults' day, "set apart for the youth of the country". All offices and schools were closed, but shops were open and unusually crowded. Dr. Omura had arranged for my sight-seeing. Upto lunch-time I covered a fairly wide area of the town. In a very crowded part of the town, my guide selected one restaurant in a building owned by the mother-in-law of Rash Bihari Bose. Many of the Japanese, are so fond of Rash Bihari Bose that anything connected with him directly or indirectly has some place in their minds. The restaurant was crowded and noisy with an exclusive musical sound of eating spaghetti and rice in green tea with chop sticks. The bowl containing that combination was kept very near the lips and suction was applied, which pulled up the fluid while the chop sticks acted to direct the spaghetti or the rice towards the main stream. Every second somebody or the other was busy with that process and the sound was almost continuous. Having finished lunch, we went to the nearby station of the sight-seeing 'bus. The place, being on the main street,

was crowded with holiday-makers of all sexes and ages. It was an ideal situation to observe the cross-section of society, varieties of Japanese costumes, heights of the people, their manners, faces, make-ups etc. Some of them, especially people of the older generation, seemed to be running rather than walking. Those who appeared to be running had wooden sandals with two horizontal bars underneath across the sole. The hinder one was just near the heel but the one in front was placed near the ball of the great toe. While lifting the foot from the ground, it gave an appearance of running. Our guide on the 'bus was a smart Japanese lady. As her commentary was in Japanese, I could not understand anything of it, except that she was talking continuously and words were following each other very rapidly. I could make out only certain sounds like ts, ks, ms, ss, zs and chis repeated often by her. I was told that guided tours for English-knowing people were conducted on fixed days of the week, but as I had no other day to spare, I could not avail of that opportunity and had to go by that particular tour where I saw everything but understood very little of what I heard and saw.

One of the places where we stopped during the tour was a palace, where a photographer was waiting for us. As soon as we got down from the 'bus, he expressed his desire to snap all of us together and requested us to occupy the benches which he had kept ready. All of us had the magnanimity of heart to oblige him, for we had not to pay him anything, and thus we were snapped with our faces smiling. He thanked us for the favour we had done him and just announced that if anybody wanted to have a copy of the photograph, he would be happy to give it in an hour's time at a particular stop of our tour, and at very nominal charges. Most of the passengers ordered for a copy, particularly because they were to get it even before they had completed the tour. He knew and profited by the psychology of the tourists and their desire to possess a souvenir of the

tour, the best of which was, of course, their own picture in the group.

I met the day after Prof. T. Yoshida of Pathology Department of Tokyo Medical School and Dr. Kinjaro Owada, Otolologist of Keio University. Being interested in Pathology, I wanted to see the Pathology Department and the teaching of that subject in Japan. Dr. Khanolkar had given me a letter of introduction to Prof. T. Yoshida. I saw the Pathology museum and other teaching material. Dr. Yoshida, a research worker, has done a good deal of experimental work on cancer and explained to me some of it. My visit to Dr. Owada, ear, nose and throat specialist, in one of the larger hospitals in Tokyo gave me a good opportunity to see a Japanese Hospital, which was almost of the same standard as any of the teaching Hospitals in Bombay. Dr. Owada has done some audiometric studies of patients belonging to the Leonard Wood Memorial's 'Clinical Evaluation Studies'.

That morning I had an appointment with Dr. Shimoura, the President of the Japanese Leprosy Foundation who though not a medical man, was much interested in anti-leprosy work. The Royal family of Japan has been interested in the leprosy problem for many years and in every colony I had visited I could see something which was either a memorial for one or the other of the Royal Family or a present from them. Till 1951, the association was run by the Government but after the death of Empress Teimei, the mother of the present Emperor, the Royal Family donated a very large sum as an Endowment for anti-leprosy work. The people also carried out a campaign for collecting funds for anti-leprosy work. Pooling together all the money a new Association, semi-official in nature, was formed and given the name of Japanese Leprosy Foundation. The Foundation was not doing any medical work and had restricted its activities to propaganda and publicity. Dr. Shimoura asked me about the leprosy problem in India and the way we were

dealing with it. He told me that he had accepted the Presidentship only after getting an assurance from the Japanese Leprosy Foundation, that he could utilise the money for anti-leprosy work in other countries also if he found it necessary. He was particularly interested in India and gave a letter addressed to the Chairman of Gandhi Memorial Leprosy Foundation. I spent about two hours with him.

Then I went to Dr. Hamano, the Vice-President of the Japanese Leprosy Foundation. He is a medical man and was once the Minister of Health. Wherever I went in Japan I experienced the hospitality of the people, but Dr. Hamano's knew no bounds. Whatever he said showed the magnanimity of his mind. From that time onwards till I left Japan, he was associated with my stay in one way or the other. In the after-noon he gave an excellent party in a Japanese style restaurant, where I expressed to him casually my desire to see Hiroshima. Dr. Hamano promised without any delay to arrange everything for me. Being a very popular figure and having friends scattered all over the country, he most willingly offered to write himself to Dr. Maki, the Associate Director of the Atom Bomb Casualty Commission at Hiroshima about arrangements for me there.

X

WITH DR. MITSUDA

IT was a Sunday and I had to catch the 8 o'clock Express at Tokyo Railway station to proceed to Okayama, from where I was to go to the Leprosarium on Nagashima Island, to Dr. K. Mitsuda, one of the world's greatest Leprologists.

It was a metre gauge train with coaches as 'clean' as any in the Indian trains. There was a Japanese porter for each second class compartment and the one in ours knew a few words of English. As nobody else knew English in my compartment, it gave me some rest. On the platforms, the vendors, both men and women, carrying trays hanging from their necks were shouting at the top of their voice. The sight of smartly dressed women, working as vendors and in addition shouting, was unusual to an Indian. The passengers were in the habit of alighting at every station and walking from one end of the platform to the other to enjoy the journey more. At lunch-time I asked our porter to order a lunch for me. But I learnt that there was no question of ordering as there was nothing but rice available which was sold packed in boxes. I was curious to see the contents but on opening the box I was disappointed to see soft cooked rice, a few chunks of pork and some vegetable. Till then I never had an occasion to eat rice in that way but as there was nothing else to eat I had to swallow whatever was before me. During the time I was busy inspecting the box, the other passengers had started eating and probably with a great relish. As I was not very much interested in the stuff before me, I decided to utilise that opportunity to learn to wield the chop sticks rather than seriously eat the plain rice. The chop sticks had to be managed only by one hand and not two, as many believed. In my first few attempts to bring the ends together,

like a tong, exactly the reverse happened but ultimately I did succeed and thus ate the rice, which came out in lumps, with chop sticks. But for the fear of starvation I would not like to repeat that feat.

Up to Okayama we passed along the sea coast, and later through beautiful countryside and mountains. I could see villages, farms and everywhere busy people. In some of the places it had snowed heavily so that on both the sides of the tract, heaps of snow were seen. After being received at the Okayama Station, at 10 p.m. I was taken to a Japanese style hotel, where no body could speak English. The rooms were very clean and except for bad heating arrangements, the place was very comfortable. As it was time for bath according to the Japanese custom, I was taken to the bath-room and left there without any instructions, for I could not understand a word. The door could not be fastened and anybody could come in. I explored the bath-room, which had two compartments, the first with hangers for keeping the clothes while the other had a small built-in pool full of steaming hot water. My difficulty was the absence of any cold water but somehow I managed the bath.

On Nagashima Island, Dr. K. Mitsuda and his colleagues received me. Though I was to be with him for 3 days, our talk on leprosy started right from the moment of my landing and continued till the lunch-time. As he did not speak English, one of his assistants Dr. Iyota, had to act as our interpreter. Dr. Kensuke Mitsuda, though about 76, has the zeal and energy of a young man. After lunch Dr. Iyota took me out for a round of the colony, which is situated on an island about 10 sq. miles in area, covered all over with thick vegetation. The site is very picturesque. Standing on the hill, I could see different buildings scattered in their green surroundings. On three sides was the deep blue Pacific. A motor launch was reserved for children of the staff and healthy children of the 'preventoria' who attended school on the mainland. Another launch was meant for

patients' fishing. A number of jeeps were maintained for the workers. Though isolated, the island was connected with the mainland by telephone and telegraph cables and electricity had to be brought also from the main island. As there was no water on the island, large pipe-lines were laid across the sea to bring it from the mainland. Most of the 170 healthy workers had their families on the island. All the staff had furnished quarters. There was a small general store.

The colony can accommodate 1600 patients and at the time of my visit, it was full to its capacity. The buildings, constructed mainly of wood as in the other parts of the country, were well spread out. In each block some of the rooms were single and others double. Groups of such blocks were meant for different types of patients e.g. a group of blocks for men, another for women, a third for children and a separate one for married couples. There were infirmaries for disabled, crippled and blind patients, where patient-attendants were provided. As the Japanese leprologists believed in isolating every case of leprosy irrespective of its infectivity there was no problem of rehabilitation of a patient outside the colony. The rooms of the patients were very clean and decorated in Japanese style. As they did not use cots, the floor was covered all over with grass mats. Marriages amongst the patients were not only permitted but sometimes encouraged. At the time of my visit there were 344 married couples in the colony and almost all had been sterilised. Dr. Mitsuda himself was a great advocate of sterilisation of the male partner and never permitted a marriage unless the male partner had submitted to the operation. In the other colonies, however, some of the couples were not sterilised but out of a total of 1958 couples in all the colonies taken together, about 71% were sterilised.

The diet was good and compared very well with the average diet of the general population, as could be seen from the following table.

<i>Type of Population</i>	<i>Calories per day</i>
Urban	2024
Rural	2216
Leprosy patients in a Govt. colony ...	2529

The patients were not permitted to cook food in their rooms and every patient whether married or unmarried, had to receive it from the common kitchen; of course, they were free to eat in their rooms. At the time of admission, the patient was kept for a week in a separate ward and later on after sterilisation of his clothes etc. he was admitted to the proper block or the hospital ward according to his condition. There were special departments for surgery, ophthalmology, ear, nose and throat, dental, gynaecology and physiotherapy. In a well-equipped indoor Leprosy hospital, patients could be treated for any ailment. The routine treatment was with Promin and Promizol, and though other sulphones were also used, they did not use D.D.S.

There was a theatre and a common hall for community functions. Work being voluntary, those patients who worked had to be paid, the wages for which varied from about \$2 to \$4 (Rs. 10 to 20) per month. Healthy children of the patients were kept in the 'preventoria' where at the time of my visit were about 75 children, all of whom looked very healthy. A school was being run for the younger children, while the older went to a school on the mainland along with the children of the staff members. The following list gives the number of personnel in various sections at Dr. Mitsuda's Colony:

Doctors including lady doctors	..	..	..	16
Dentist	..	..	..	1
Sisters	..	..	..	3
Nurses	..	..	..	41
Technicians	..	..	..	5

Assistant to the above	..	..	..	..	1
Ward Assistants (i.e. patients engaged for ward work)	..				230
Pharmacists	..	..	..	..	4
Assistant to the above	..	..	..	..	2
Disinfectors	..	..	..	..	2
Labourers	..	..	..	..	2
Clerical & other staff	..	..	..		Extra

On one of the hills I could see the Japanese Cemetery, which consisted of a temple-like spacious room. In it there were cabinets with small compartments, each having a vessel containing the remains of the dead. I was told that the remains of Dr. F. Hayashi, one of their prominent leprosy workers, who died of tuberculosis some years ago, were kept there. Near the Cemetery was a temple with a big bell, which was a donation from the Royal Family.

Having finished the round, we returned to the Common Hall, where I was to address the patients. In my talk I explained the leprosy problem in India and how the patients were being looked after. Many of the patients gave me presents, mainly paintings drawn by them, each inscribed with letters. Some asked me the eternal question, doubting the infectivity of leprosy, but to my surprise that question was asked in English and not in Japanese.

Dr. Mitsuda told me that they had solved their leprosy problem in a considerable measure and if possible they would certainly like to help India. With his advice, the Government of Japan had sent 'Promin' to the Government of India. The quantity of the drug sent was sufficient for 200 patients, but priceless as a gesture of goodwill.

In spite of an earthen oven and an electric heater my room was so cold that I had to keep the electric heater very near my bed. In the morning when I got up, I found a corner of the blanket lying on the heater with a portion of it actually burnt. Feeling guilty about it, I searched for my hostess to express my

regrets. But unfortunately I could not get to her anywhere and later on I was so engrossed in work that it went out of my mind. I do not know whether my hostess detected it or not, but here I am making a public confession, so that if the kind lady ever reads this, she may know that it was my mistake.

Dr. Mitsuda asked me after breakfast to 'get ready' to go to the hospital. A number of doctors and nurses accompanied us and like them I had to put on a cap, a mask and an apron but in addition they had to put on gum-boots.

The Leonard Wood Memorial had one of their 'evaluation of drug' unit under Dr. Miyata, who worked as Dr. Mitsuda's assistant. I examined a number of cases from that unit and saw different types of lesions and alopecia of the scalp. It was very peculiar that in those cases streaks of hair were still preserved only in that region of the scalp, where there was a blood vessel underneath and for which there did not appear to be any explanation. Afterwards we went round the wards and saw a number of cases of erythema nodosum leprosum and Lepra Reaction but as I could not see appreciable differentiating characters between the two conditions, we decided to talk about it later. After leaving the wards I was satisfied merely with washing my hands but Dr. Mitsuda was not and at his instance I had to dip the soles of my shoes in the tray of lotion kept for that purpose. Fortunately for me I had changed the sole before going there, otherwise by then the perforation would have been complete, through which by absorption my socks would have emptied the whole tray to Dr. Mitsuda's surprise.

After lunch I again joined Dr. Mitsuda in the laboratory, where he was going to demonstrate his method of staining acid fast bacilli on frozen sections. I saw the technique and also the stained sections, where even in the giant cells I could see pink acid fast bacilli against an orange background. The method was quite good but the sections faded away rather too soon. I told him about Dr. Khanolkar's concentration method of demon-

strating the bacilli and some of its results. I wanted his opinion on the usefulness of histological examination in a very early case, when clinically it was not possible to diagnose it, of course taking for granted that Dr. Khanolkar's concentration method was not done. In spite of doing histological work himself, he was of the opinion that in the majority of such early cases histological examination did not throw any further light on the diagnosis. He, however, pointed out that the nerve biopsy would show bacilli. Dr. Mitsuda and others did not believe in the non-infectivity of every negative neural or a tuberculoid case and they recommended segregation of every case of leprosy. He advocated that Prime Minister Mr. Nehru should start colonies on separate islands as they had done in Japan and wanted me to approach Mr. Nehru to explain his views. I had to explain to him the economic and other conditions of India and the difficulties which the Government of India had to face after independence. With hundreds of unsolved health and other problems, India had 1,500,000 leprosy patients, of whom even according to an administrative definition 3,50,000 were infective. When segregation even in mainland colonies was a difficult problem, India could not even think of island colonies. Apart from the financial reasons, there were so many other drawbacks in island colonies that they were absolutely out of consideration for India.

Dr. Mitsuda then raised the question of the increasing population of India and advised birth-control as a solution. He had not been informed that in India 80% of the population lives in villages and we had to deal with uneducated people where the three commonly practised methods were not very useful. The 'Safe Period' method, apart from its unreliability, cannot be used in India as the majority of the women is incapable of remembering their menstrual cycle, on which depends the method. Mechanical appliances are beyond the means of many and even if they are supplied free, people cannot use them because of the

lack of privacy, which is so necessary. A method which requires pre-planning cannot be practised in India because of the overcrowding. Against vasectomy there was so much of prejudice, that it cannot be adopted on a wide scale. Before retiring for the night I was honoured by being presented a copy of his '*Atlas on Leprosy*' autographed by him and all the other doctors.

Next morning I went to Oku Komyoen Leprosy Colony on another small island nearby, Dr. Jingu being the Director and Dr. Namba his assistant. The colony had about 1000 patients and was run on the same lines as Dr. Mitsuda's. After lunch I addressed the patients there and returned again to Nagashima to see some operative work. In the evening, the doctors of all the three colonies assembled at Nagashima to give me a tea party, which was really a dinner. From five till ten, we continued our discussions on the dining table and covered a wide range of subjects. Again Dr. Mitsuda expressed his desire to send two Japanese leprologists to India to help us. Welcoming his suggestion I thanked him and the people of Japan for their goodwill but I had to place before him our difficulty in inviting them. We could certainly welcome the Japanese workers, but our people not being rich could not take the initiative. Dr. Mitsuda asked my opinion about the gift of 'Promin' they had given to India. Thanking the Government of Japan, I explained that India, in view of her economic conditions, total number of leprosy patients and lack of sufficient facilities for segregation and treatment, had to depend more on oral D.D.S. than any costlier drug or injection therapy. Moreover, the donor could give a very much larger bulk of D.D.S. than 'Promin' to meet the needs of a very large number of patients. As Japan was producing her own 'Promin' it would not be difficult for her to supply D.D.S. instead of 'Promin'. I was overwhelmed by their goodwill for India and sure it would take a concrete shape some day. Before dispersing I thanked Dr. Mitsuda for all his kindness and as I was to leave at 7 a.m. next morning, begged of him not to come

to the pier at that cold hour but he just smiled.

Next morning I was at the pier at 7 a.m. with all the doctors and a few nurses and I was happy that Dr. Mitsuda had not come in that biting cold. As I was requesting Junior Dr. Mitsuda to convey my good wishes to his father, I saw the Senior doctor coming slowly in our direction, with a broad smile on his face. After some conversation when I went into the motor-launch, he came near to convey his good wishes to my wife and to ask me to come again to the colony. The parting was painful and I could not even express adequately my gratitude to him.

Through rough sea we reached another Island to visit Oshima Seisho-en Leprosy Colony of which Dr. Nojima was the Director. The colony had a capacity for 800 patients; otherwise it was like Dr. Mitsuda's place. Dr. Nojima has claimed to have successfully inoculated the leprous material in hens and from the experimental lesions he has cultured an acid fast bacillus which according to him is *M. leprae*. I saw the whole work very carefully but I must admit that I was not convinced of his claim, although as he has been continuing the work, the final results cannot be judged. After a round of the colony, I had to address the patients, but while talking to them, I was shivering with cold in spite of the earthen oven near me. Seeing my pitiable condition, one of the nurses covered me with an overcoat, which should have never been worn in a room according to Japanese custom. It was another incident of kindness. After the talk I was profusely complimented on having taken up the anti-leprosy work at a young age and given presents. Receiving similar compliments at every place, I came to the conclusion that it was all due to their expectation of finding me an old man.

After lunch, I proceeded by a launch to Takamatsu. In view of its good harbour, Takamatsu was bombed in the World War II, but after seven years I could see nothing of the ruins. On reaching there, Dr. Nojima went to a big department-store, and placed an order for woollen garments and before they were

brought, casually asked me about my size. Till then I never suspected that they were meant for me. Dr. Mitsuda and the other two Directors (Dr. Nojima and Dr. Jingu) believing that my life was precious, had decided to present me a complete suit of woollen garments to protect me from the severe cold of Japan. Dr. Nojima accompanied me in the launch to Uno and from there we went by a train to Okayama, where I had to catch the U.S. Section Car, a Military train, for Hiroshima. At Okayama station a few more people came to see me off, one of whom came from Dr. Mitsuda, with a few photographs taken there.



Author with Burgesses in their home



Gate of Carville Leprosy Colony



Leprosy Clinic in Manila



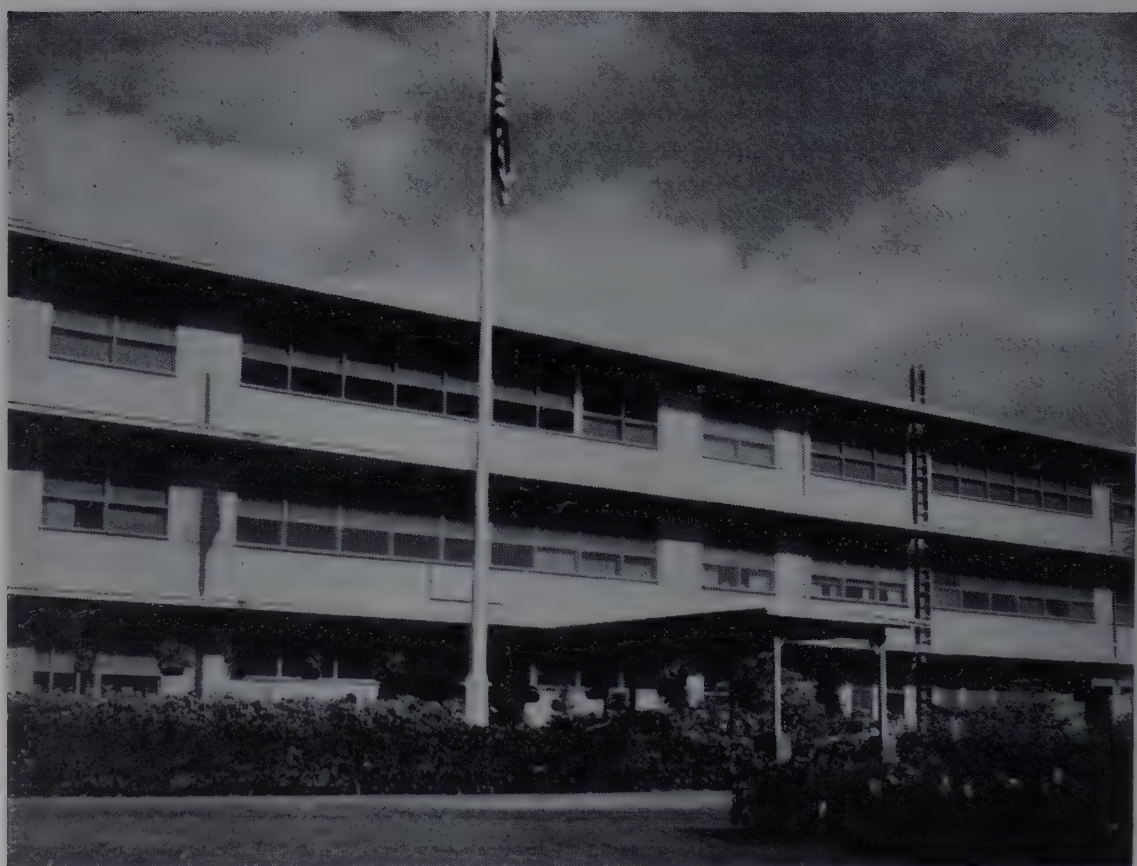
Occupational therapy in
Carville Leprosy Colony



Author demonstrating Concentration Method
in Carville Leprosy Colony



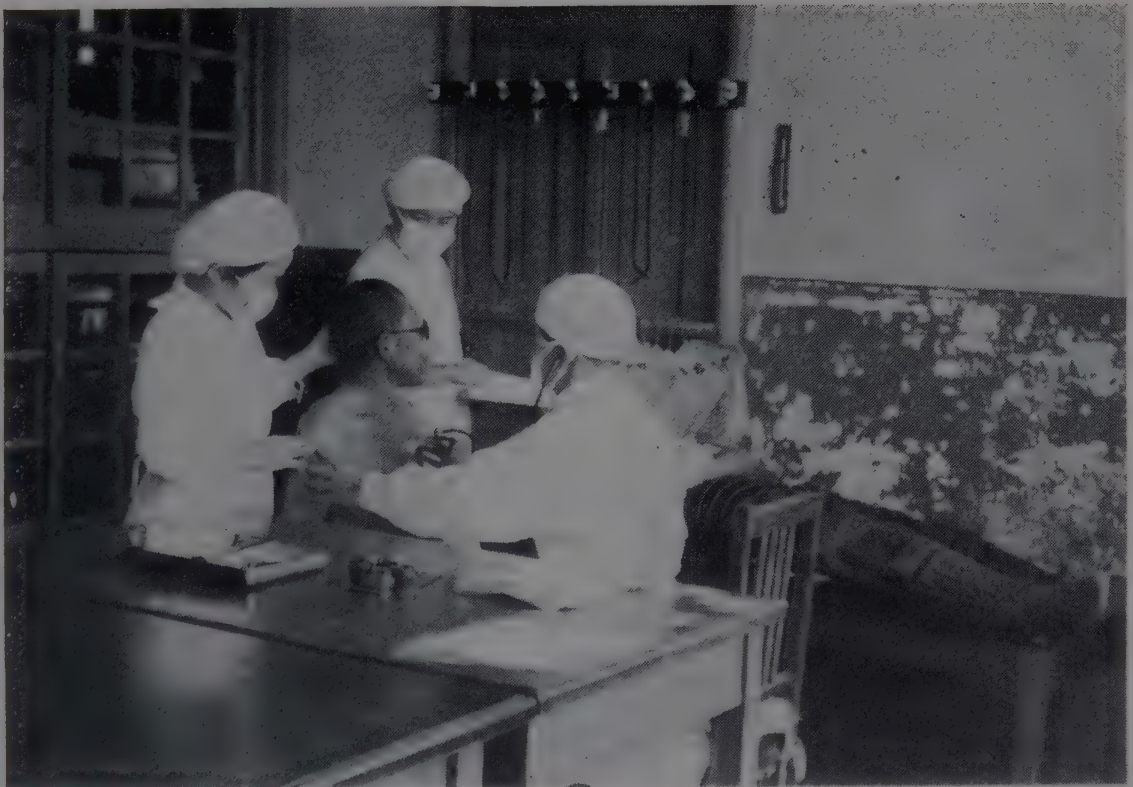
Author (centre) with Dr. K. Mitsuda



Hale Mohalu Colony, (Hawaii)



The bird's eyeview of a Colony in Japan



Examination of a patient
in a colony in Japan



Statue of Leonard Wood in Culion Colony

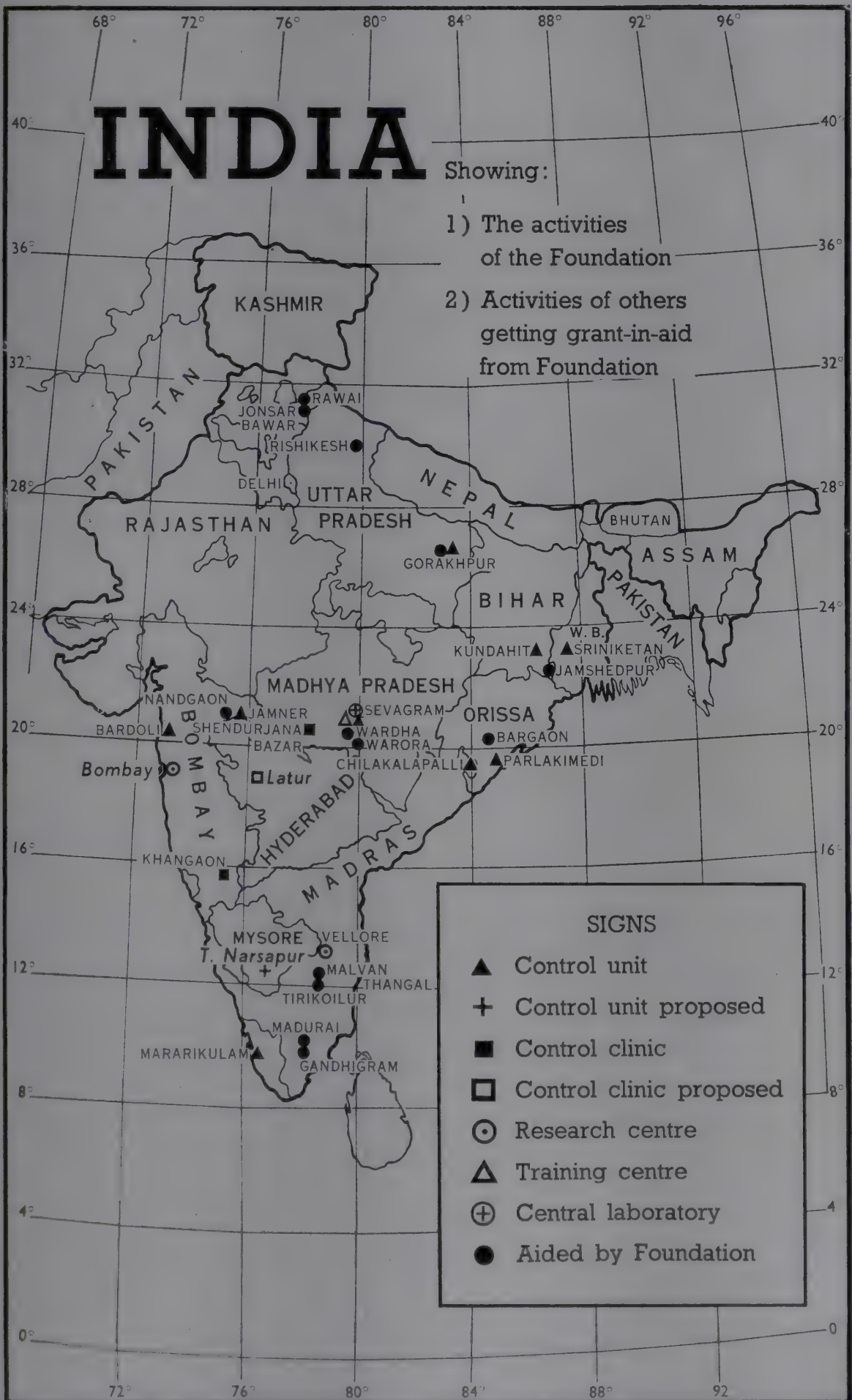


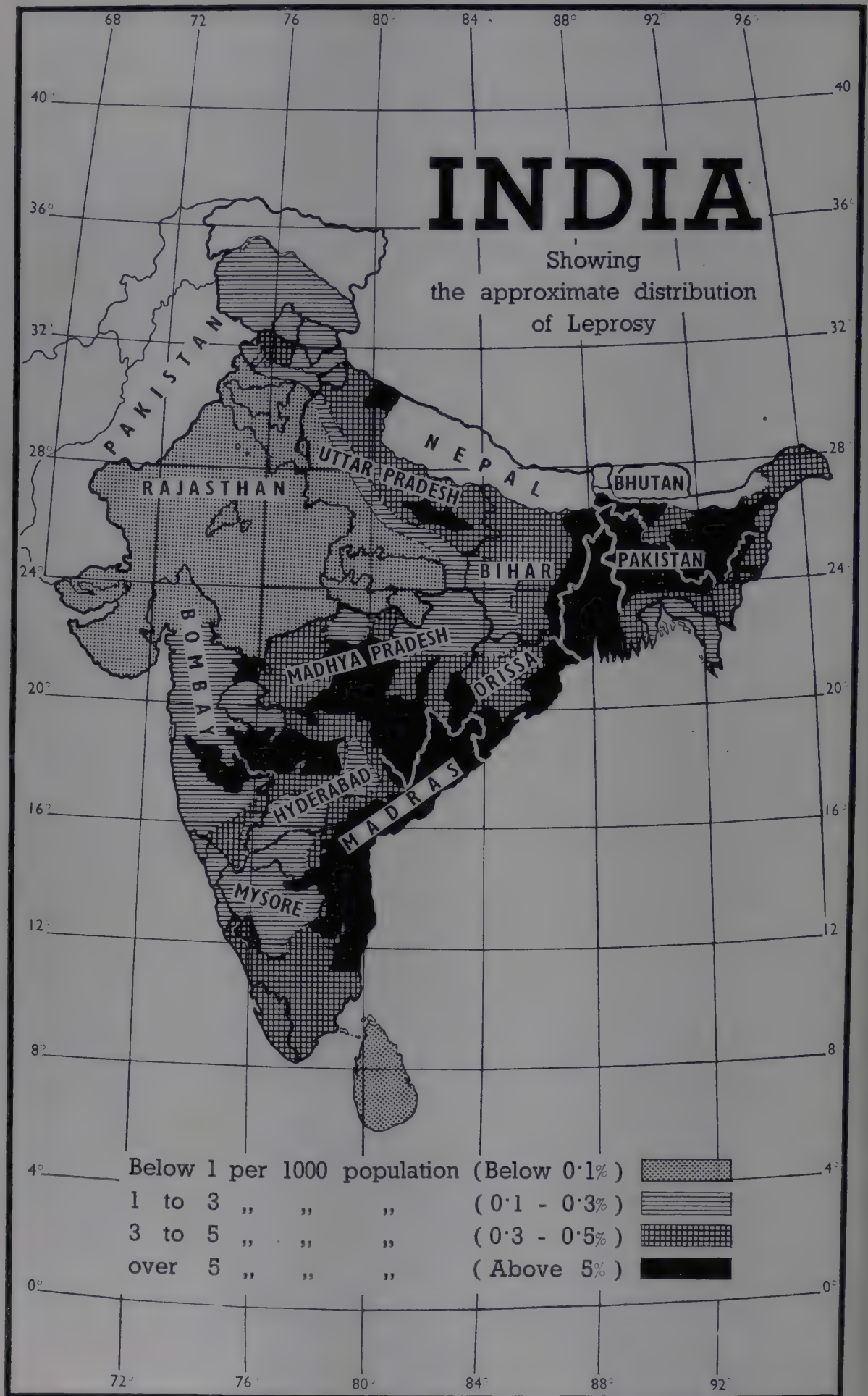
Culion Colony

INDIA

Showing:

- 1) The activities of the Foundation
- 2) Activities of others getting grant-in-aid from Foundation





XI

IN HIROSHIMA

I REACHED Hiroshima in the afternoon. The train was full of American Army personnel, many of whom were accompanied by Japanese ladies, presumably their wives. The train had a dining car while the coaches also were very much cleaner than I had seen before. At Hiroshima station Dr. Maki, the Associate Director of A.B.C.C., was expected to receive me but he was late and I managed to reach his office.

I was first taken to Dr. Taylor, the Director, but he was surprised to find me alone for he was expecting a party of five persons. He told me of having received a telegram from Government Office at Tokyo informing him of the visit of a party of five. I was sure the Tokyo Office could not make such a mistake but he showed the telegram in original to convince me. It read something like—"Dr. Ram Chandra Vishva Nath Wardkar representing Gandhi Leprosy Foundation of India reaching etc." Dr. Taylor counted five names in the telegram, of whom, according to him, only one was a doctor. I explained to him that the whole of it was the name of one person only. We had a hearty laugh over the matter. Going round the institution I covered all its departments but spent much time in the Pathology Department of which Dr. Clara Margoles was the chief. Knowing that I was a pathologist, she showed me some *post mortem* material and the histological sections of a case, who had died undiagnosed in the Military Camp a few miles from Hiroshima. I examined the sections and discussed that case with her.

I had heard in India of the presence of Ghost-like figures at night in atom-bombed Hiroshima. Therefore, after dinner I decided to verify it. But alas! my hopes were all shattered in

the two hours spent in search of those figures. There was nothing in the weather to indicate that the place had ever been atom-bombed, but other things, however, presented plenty of evidence to show the devastating effects. I was eager to meet people, who were either eye-witnesses or sufferers of the atom-bombing.

The city was well lighted, theatres were full of people, buses and trams were running and shops were crowded. But in spite of all that, there was in the air a definite feeling of incompleteness, arising out of the sight of new buildings, roads, shops in construction.

A.B.C.C. which was started about 5 years ago, is financed mainly by the U.S. National Council of Research and partly by the Government of Japan. Though the over-all supervision and guidance rested with the Atomic Commission of the U.S.A., the day to day work is carried out under the directions of Dr. Taylor to study the results of the atomic explosion on human beings. There is a fully equipped diagnostic centre as well as a follow-up service. Moreover, as the work depends entirely on the co-operation of the people, the Public Relations Officer is as important as the scientific worker. The Institution is divided into a number of sections such as X-Ray, Pediatrics, Obstetrical & Gynaecological, Ophthalmic, Ear, Nose & Throat, Pathology, Autopsy, Photography, Cardiology, Neurology, Microfilming, Library etc. The scientific and administrative staff, included about 600 Japanese workers. Due to the tactful approach of the Public Relations Officer, they could get a satisfactory number of autopsies, in spite of the popular prejudices.

Here I can only indicate a broad outline of the study which they propose to continue for a long period. I may divide the study into three sections:

1. EXAMINATION OF CHILDREN

The children are divided into two groups:

- (a) Those born of exposed persons:
- (b) Those born of unexposed persons:

For the first nine months after birth, they are examined in their own homes by repeated home-visits. After nine months of such a study they are asked to attend the A.B.C.C. clinics, where a complete examination is made each time.

2. EXAMINATION OF ADULTS

As the whole of the adult population cannot be taken up for study, a convenient sample statistically necessary to draw conclusions has been selected. They are divided into two groups:

- (a) Adults exposed ... 2500
- (b) Adults not exposed ... 2500

A detailed study is made of each individual and the examinations are repeated periodically.

3. STUDY OF SPECIAL ORGANS

In all the groups mentioned above, a special study is made of eyes, ear, nose and throat, genital system and so on. A study of this type, proposed by A.B.C.C., naturally takes a long time to get going and though a good deal of material has been collected, all of it has not yet been analysed. A number of reports have been prepared but they are meant exclusively for the use of the Institution and very few of them have been released. The study done so far shows that the incidence of the following diseases is higher in those who were exposed:

- (1) Various types of Anaemias.
- (2) Leukaemias.
- (3) Ovarian disfunctions.
- (4) Cataract.

In writing this information about the A.B.C.C. or the work done there, I have no official literature at hand but it is what I collected in personal interviews.

With Dr. Margoles and Dr. Maki, I toured the main part of the city for three hours visiting the important places. Hiroshima was atom-bombed on 6th August 1945, and as I visited it after seven years, I did not expect to see it still in ruins; but even to appreciate how it had come up again, I had to know the extent of the damage done. At the time of bombing, it was the seventh largest city in Japan and had a population of 400,000 and the investigation carried out there three months after the explosion showed:

Dead	...	78,150
Missing	...	13,983
Injured	...	37,425
Total	...	1,29,558 (which was 36% of the total population.)

As regards the buildings, 6040 were completely burnt or destroyed and only 11 % were left. Many of those who survived left the place and took refuge in the surrounding towns. After the bombing, the city proper within a radius of two miles from the explosion centre took on the appearance of what was then called the 'Atomic Desert'. Later on the population started increasing again, which in 1950 reached the figure of 285,712 and was about 300,000 at the time of my visit. Since the bombing, 6th of August has become the 'Peace Festival' day, while the slogan 'No More Hiroshima' has been engraved upon every heart.

In the early stages of rehabilitation, they had constructed temporary dwellings, which later on were demolished when new buildings sprang up. A long-term plan aided by the Government has been prepared by Hiroshima Peace City Construction

Committee and the whole town has been remodelled. The word 'Peace' has been applied very freely to buildings, committees, bridges, parks, monuments, museums and probably to many other things, but everywhere it is associated with the effect of the Atom Bomb. This love for the word 'Peace' demonstrates the horror that the Atom bomb has created in the human heart. I could see the results of the devastation at various places. The pre-bomb Industrial Exhibition Building was tall and impressive but what had remained of it? Most of the building had been destroyed completely and not a single room was intact. The highest portion of the building, which once had a beautiful dome was then exhibiting only the steel-frame of it. I could see the building only because they had decided to preserve it in that condition as a memorial. One, Mr. Kikkawa, who was exposed to the bomb and had burnt his back and both arms, kept a very tiny shop or even something less than that, where he sold photographs of the actual devastation or of people who were killed or suffered like him. He had preserved a few 'Exposed' articles which demonstrated the effect of the excessive heat that was released by the bomb. On comparing with one of his old pictures, the scars on his body appeared to be much less prominent than before.

A museum has been built to preserve all the articles exposed to the bomb. One of the bank buildings, which had survived the bomb except for some repairable damage, showed on the foot-steps an impression of a shade darker than the rest, and a shape like that of a human shadow. From the shape and colour of the shadow it was believed that at the time of explosion, somebody was probably sitting or standing there, so that the particular area remained unexposed. Nobody, however, seemed to know the fate of the person who protected the floor. The shadow was protected by a fencing and I learnt that a few years ago it was darker. The shadow appeared to continue to fade away. But in contrast to these was new construction, including

a bridge on the river, with its design so very different from any I had seen anywhere till then. Many of the memorials were then still under construction. The design was completely of a new type. The 'Condolence Monument' was particularly distinguished in that it had no building at all but only a huge tunnel-like cement structure open at both ends. A list of all those who died in the explosion was buried under it by the Mayor of Hiroshima. The Epitaph inscribed on it, read:

"Requiescat In Pace!"

"The Error Shall Never Be Made Again."

The sight of the various places made me rather restless particularly because I knew the Japanese as well as the Americans and had seen Hawaii as well as Japan. All the people I met were peace-loving and kind and yet there was so much destruction, that I realised with pain how strange was the working of the human mind.

XII

LEPROSY IN JAPAN

DRS. Margoles and Maki saw me off at Hiroshima station in the afternoon and I was to reach Tokyo at 7 a.m. next morning. But as there was no sleeping car I had to sit out the entire journey. In my compartment, nobody knew English and I was left to myself to review what I had seen, heard and read.

The economic condition of the people did not appear to be very satisfactory and though I could see men and women working everywhere, their standard of living was not high. The average wages for a labourer are 240 to 300 Yen (Rs. 3 to 4) per day. Although they were much higher than in India, still not sufficient to live well. Seeing many young doctors in the Leprosaria, I was curious to know how they were attracted to join the service, but my inquiries revealed that the earnings of a private practitioner and a doctor in the Government service were almost the same. Moreover, the National Health Insurance Scheme, which is gradually extending its activities, operates in such a way, that without legally compelling a private practitioner to join it as a doctor, conditions are created so that the doctor has to join it. The insured person if he wants claims, can go only to a Registered National Insurance Scheme doctor, and as the majority of the population is insured, the private practitioners have to join the scheme as doctors if they want to maintain themselves in such places. It means that directly or indirectly everybody is in some sort of Government service. Very few of the doctors or the Government Officers can afford to keep a car of their own, while even in big places like Tokyo, taxis are very few.

The people are short, healthy and look much younger than their age. The skin is soft and either pink or yellow. It was my general impression that the Japanese were less hairy than Indians. Their eyes are very much different and I wanted to know the exact anatomical difference. From whatever I could observe, there seemed to be at least three peculiarities. One is that the inner canthus in their eyes is almost non-existent, the second that the skin of the upper eyelid is folded longitudinally just above the muco-cutaneous junction or it can be said that the skin overlapped slightly to form a longitudinal fold and the third is the slight proptosis. The nose is rather small and short with thin *alae nasi*. The teeth appeared to be bad and it was a rarity to find a mouth without any gold-stuffed tooth. Most of Japanese ladies, at least of the present generation, cut their hair, and use make-up.

Wishing well each other on meeting is by bowing and as I was constantly moving about with them for so many days, I acquired the habit unconsciously. Politeness and hospitality is seen even in coffee-shops or restaurants where everybody receives welcome with a bow and "Please come in" and is seen off with a bow and "Please come again". Their cleanliness and tidiness is puzzling, for it shows two different phases. The streets, offices, restaurants, coffee-houses and the people working there do not appear to be very clean, but their homes or the Japanese hotels present a complete contrast where the people, their dresses, the rooms and everything else is scrupulously clean. In fact the Japanese style hotels are so clean and homelike that I preferred to stay there. The people have a great love for their country and their Emperor, and will not tolerate anything which hurts their sentiments about those two precious things.

The results of their anti-leprosy campaign of the past forty-five years can be analysed under the following headings:

CASES IN SEGREGATION

In March 1952, 9659 patients were in segregation in Japan, as can be seen from the following table:

Name of Institution	Location	Fixed No. of beds	No. of patients admitted
GOVERNMENTAL			
Matsugaoka Hoyo-en	Amori Pref.	730	637
Tohhoku Shinsei-en	Miyagi Pref.	605	566
Kuryu Rakusen-en	Gumma Pref.	1180	1059
Tama Zensho-en	Tokyo Pref.	1211	1197
Suruga Sanatorium	Shizuoka Pref.	520	336
Nagashima Aisei-en	Okayama Pref.	1600	1588
Ogu Komyo-en	Okayama Pref.	1050	901
Oshima Seisho-en	Kagawa Pref.	800	660
Kikuti Keifu-en	Kumamoto Pref.	1700	1477
Hoshizuka Keiai-en	Kagoshima Pref.	1100	1011
Sub-Total:		10496	9427
PRIVATE			
Minobushinkei-en	Yamanashi Pref.	65	43
Kamiyama Fukusei Hosp.	Shizuoka Pref.	105	99
Tairo-en	Kumamoto Pref.	122	90
Sub-Total:		292	232
Grand Total:		10788	9659

HEALTHY WORKERS

The number of healthy staff in all the ten Government Leprosaria, as in May 1952:

Physicians	..	76
Pharmacists	..	25
Nurses	..	344
Nutritionists	..	10
No. of Patients	..	9,439

THE ESTIMATE OF TOTAL CASES

In 1950 the unofficial estimate of the total cases ranged between 12,000 to 15,000, while the official estimates showed only 12,000 cases. The table of the official estimates of the total cases in Japan from 1904 to 1950, shows that the incidence had declined from 0.64 to 0.15 (per 1000 population).

Year of Investigation	Population	Patients	Incidence per 1000 Population
1904	..	30,393	.64
1906	47,160,400	24,408	.50
1918	..	16,261	.29
1924	..	15,351	.25
1930	..	14,261	.22
1935	..	15,193	.21
1940	..	15,793	.21
1950	83,199,637	12,000	.15

DEGREE OF ACCURACY OF THE ESTIMATES

Seeing the marked fall in incidence within about 45 years, I was interested to find out the degree of accuracy of the official and non-official estimates. What was the role of Sulphones in reducing the incidence in that country? Every case, whether infectious or non-infectious, active or 'arrested' is segregated and once segregated it is rarely discharged, while very few of those cases, who are still at large, are on Sulphones. Thus even if all the segregated cases are on Sulphones that factor is of no consequence in bringing down the incidence in the general population.

In 1940 there were 15,793 patients, while in 1950 there were only 12,000, which meant a decline by 3,793. This could happen only if the total deaths amongst the leprosy patients were very much higher than the new infections. Basing my *calculations* on some scattered official statistical data for that period, it was obvious as shown below that the facts were very much different.

(1) NEWLY REPORTED CASES

(i) In April 1950, there were 1684 diagnosed cases of leprosy still moving about freely in society in spite of the fact that segregation was compulsory. Of these at least 33% cases were Lepromatous, and they were spreading the infection. (From official analysis of diagnosed cases).

(ii) The time-interval between the onset of the disease and admission to a colony shows that 79% of the lepromatous cases move about freely in society for a period of 2 years, before seeking admission to a colony. (From official analysis of cases admitted in colonies).

(iii) In the past 40 years though the standard of living and health conditions had improved, it has not yet reached the level of the U.S.A. or Hawaii. (Personal observation).

(iv) In 1948, 712 cases were reported; in 1949, 778; in 1950, 604; and in 1951, 485, which gives a total of 2579 in a period of 4 years. The average number of cases reported per year, calculating on the above figures is 645. (From official Annual report for 1952).

(v) *Calculating for 10 years, 6450 new cases were reported.*

(2) DEATHS

(i) Annual deaths among leprosy patients were decreasing every year. In 1920 there were 1118; in 1930, 640; in 1940, 264 and in 1948, 148. (From reports of the U.S. Army in Japan).

(ii) Average annual deaths for the period of 1940 to 1950 can, therefore, be safely assessed rather liberally at about 225.

(iii) *Total deaths for the ten year period of 1940-1950, calculating on the above assumption, are 2250.*

(3) NET RESULTS

As seen above, in the period 1940-1950 probably 6450 new cases were added, while only about 2250 cases died, thus adding at least 4200 cases to 15,793 which was the official estimate for 1940. The official estimate for 1950 on the above calculations

should have been 19,993 and not 12,000 as has been reported. The official estimate (of 12,000) for 1950 can be taken as correct only if over 9000 cases had died in that period or for some unexplained reason new cases had not developed in that interval. If the same analysis is applied to estimates for 1940 there is every possibility that even 15,763 is probably a gross underestimate.

CONCLUSIONS

In view of these considerations it is quite safe to believe that in 1950, the total cases were 20,000 at least of whom only 10,000 were in segregation, which means that the leprosy problem in Japan has not yet been solved in spite of compulsory segregation and vasectomy. It is my opinion that much more has yet to be done in the way of starting case-detecting campaigns and improving the health conditions and standard of living.

I had returned to Tokyo after a week, and had no work to do on that Sunday. In the afternoon my hostess seeing my torn TWA hand-bag, suggested that I should give it to her for stitching. In spite of my refusal, she emptied it and on seeing a soiled pair of socks, she took away the bag as well as the socks. The bag was returned within an hour and the socks the next day. Such politeness and hospitality of the Japanese people I had experienced at every place whether it was office, shop, home or an Inn.

On Monday morning I visited a Pharmaceutical concern manufacturing Streptomycin, Penicillin, Promin etc. The drug-manufacturing industry could progress only because in the initial stages the Government gave it protection by levying heavy Tariff duty on the foreign products.

Dr. Hamano had planned to take me to Atami, about 60 miles from Tokyo, to see the hot springs. He had also invited a few of his other friends and offered to leave his car for our use,

going ahead to receive us there. Reaching Atami after sunset, we stayed at 'Hotel Atami' for the night. As it was time for bath, all of us changed on to Kimonos but instead of going with them as they desired, I preferred to wait in the room to take my turn. They were surprised to see my ignorance about the bathing arrangements in the hotel, and to convince me that my waiting in the room was unnecessary. They informed me that the bathing place was large enough to accommodate 400 persons at a time. I had with me no bathing dress, and very apologetically said so only to learn that it was not needed. All were to take the bath simultaneously, clad only in 'nature's costume' without any difference of sex. I declined to take my bath in that fashion. Dr. Hamano, however, pressed me to go with them and decide after studying the situation. In our Kimonos we entered the spacious hall, where in a very large pool of steaming water coming directly from the hot springs underneath, men and women were bathing as he had described, but I could not join them. After enjoying the superb dinner and the pleasant company of friends we set out for a stroll of the market, where I had to accept from Dr. Hamano a pair of beautiful Japanese sandals as a present for my wife. Dr. Hamano has done so much for me that without having any such memento I can always remember the happy time I passed with him and his greatness of mind in looking after me in his country.

At a few places on the streets some people had provided facilities for those, who were interested in fishing. The mechanism for fishing was 'wonderful' and even a novice could not fail to have a 'catch'. The pond, which was nothing but a tray, was about 4 feet long, 2 feet wide and 1 foot high, and was so full of fish that even if a novice missed them, they could not miss the 'hook'. At Atami, I had expected to see the hot springs only at one or two places in the town, but in reality, there were hot springs to be found in every house, wherever the ground was tapped. On our return journey we saw the snow-

covered Fuji mountain but the weather being inclement, we had to drop the idea of going there, and instead of that went to a place where I saw a very huge Bronze Statue of Budha, known as Kama Kura Daibutsu (Great Budha). The dimensions of the statue were—height 42 feet, length of face $7\frac{1}{2}$ feet and width of eyes $3\frac{1}{2}$ feet. I was back in Tokyo from Atami on 27th January, and as I was to leave Japan that night, I went to Dr. Omura's office to bid him good-bye. He gave me a beautiful photograph of Mount Fuji and an equally delightful painting of the same mountain on wood.

I have been really overwhelmed by the reception, personal care, and hospitality I received in Japan and though I am far off today, I have experienced at the time of writing these notes the same emotions. I have made so many friends in Japan that with my present heavy work, I do not find time even to write to them but they are always in my mind and even without a frequent correspondence will ever remain so.

XIII

CULION COLONY

AT Haneda airport (Tokyo) in heavy rain and biting cold we had a very fine take-off by the Philippine Airlines plane. My English-knowing Japanese neighbour had travelled all over the world and naturally his company was very interesting. Our next stop was at Okinawa after 4½ hours, from where Manila is at a flying distance of 4 hours. Our plane landed at Manila at about 3-45 in the morning and though I had written to Dr. Rodriguez, I did not expect him at the airport at that odd hour, but there he was waiting in the crowd and waving at me. But the strange welcome I received from the immigration department at Manila, after handing over my passport to them was to get in exchange an invitation to see the officer later in the morning at his office. My passport and visa were quite in order and naturally such welcome was not pleasant to me. Very few can imagine how one feels without a passport in a foreign country, where you can be accosted at any corner by a policeman and taken into custody for unlawful entry. I was not given even a receipt for my passport and had no evidence to show that I ever possessed one. The customs department also was vying with the other in being unpleasant and though I had no taxable article with me, I had to spend a good deal of time in exhibiting my belongings and giving the life-history of each article. To add to that, the weather was uncomfortably warm.

Dr. Rodriguez, the Chief of Section of Leprosy of the Bureau of Hospitals, was to chalk out my whole programme in Philippines, but the important places, where anti-leprosy work was being carried on were so far off from each other and some of them were so difficult to reach that I was not sure as to how many I would be able to see in my stay of a fortnight. I was

keen not to miss Culion Colony. Although it was only about 200 miles from Manila, the transport was very irregular. The colony was on a separate island and only two small ferry-cum-cargo steamers plied to the place, and returned only after a fortnight. Dr. Rodriguez gave me the news that the smaller of the two ferries was leaving for Culion the same day in the afternoon and that he had booked for me in it.

I reached the pier rather before time. There were only two classes, and I had to submit to the experience of travelling on the upper deck. Most of my co-passengers seemed to belong to the lower economic classes and all except five or six of them were on the lower deck. On the pier, vendors were selling edibles, kept exposed to flies and dust. The coolies wore straw-hats, striped shirts and dirty pants. About 30 leprosy patients of both the sexes, from Cebu and Talla Colonies, were being sent to Culion with all their belongings. In spite of their transfer to that isolated island most of them appeared to be quite happy and later I learnt the reason that they were going to get married and settle in Culion. We were to touch two ports on our way and reach Culion on the 3rd day at noon. Thus I had to spend 44 hours on that small steamer, with nothing to read and even no company but the prospect did not worry me.

On the deck each one of us was given a camp cot to serve as a seat as well as a bed. For the night there was a bed-sheet (no bed) and a pillow. My time till dinner, however, passed off rather pleasantly. The dinner consisted of an inferior quality of rice, a dry cutlet and boiled fish placed in a large quantity of hot salted water, called gravy. At 3.30 the next afternoon we touched the first port Mandoro. I call it a port only because the steamer touched it, but actually there was nothing more than a small wooden platform and one tiny shop. Curon was to be our next port of call where we were expected to reach sometime after midnight. Naturally I had thought of sleeping the whole night but in the middle of it, I woke up suddenly due to

shouting outside, to find that we were in a port. As there were no lights on the reef, except a few kerosene lanterns, I could not see much but many of the passengers had already got out and were counting their packages. The coolies were busy unloading the tins and barrels. Judging from the time, the place was Curon and as I had to proceed further I was standing at the railings to watch the excitement, when a gentleman came up and inquired whether I was Dr. Wardekar. It was a surprise for I did not expect anybody to know me at that place. However to this gentleman, who introduced himself as Dr. Tiong, I offered a seat on my camp cot and I settled on another one just opposite him. His calling on me at that place was still a puzzle but just to break the silence I asked him about it. His explanation that Dr. Rodriguez had cabled him satisfied me and I thanked him for having met me at Curon to accompany me upto Culion. I was thinking of making some arrangement for his stay on the ferry, but seeing me seated so quietly, in my dressing gown, he suggested that I should dress and go down with him. I was in no mood to do anything of that sort, for I wanted to sleep again and I even went to the extent of gently suggesting it to him. That shocked him into explaining in the most unambiguous terms, that the place we were in was Culion itself and that he the Assistant Chief of the Culion Colony, stood before me. Our steamer had called at Curon, but finding the other one there, the Captain had decided to touch Culion first which explained how we reached Culion before the scheduled time.

After breakfast I was taken to the Administration building and Dr. Tiong introduced me to all the doctors who had assembled there. Then I accompanied Dr. Nolasco, Pathologist to Culion Colony, to the Laboratory to meet Dr. H. W. Wade, the famous leprologist. He was seated near a table in the centre of the spacious hall. On his forehead was tied the eyeshield. He was dressed in Khaki. In spite of much suffering in the

World War II, he was looking active and bright at the age of 65. He is actively interested in every aspect of the leprosy problem, not only in Philippines but even in the remotest corner of the world. He talked to me of leprosy in Malaya and how it differed there among different races. We talked for over an hour. In the room I could see only the doors and windows but very little of the walls, for all over they were covered with shelves and cupboards, full of journals, books, papers, files, photographs and many other records. Within that hour Dr. Wade got up many times to get the records and photographs from the shelves. Even the drawers of his table were full and he took out some from there too. I was sitting before a scientist, who had spent his whole life on the isolated island, thousands of miles away from his home in America. Mrs. Wade's health suffered so much in Culion Islands during the Japanese occupation, that since then she has not been able to stay there. Thus Dr. Wade stays all alone and spends his time from 7.30 in the morning till late in the evening in his office and laboratory, reading, writing or studying something. He had been requested on numerous occasions to settle in America, but he preferred to stay in Culion, and carry on his research and work of the International Journal of Leprosy from there.

Later on I went to the treatment centre and examined the children. They were all born there and many had developed lesions. As the lesions were being studied, even the lepromatous cases were not put on treatment though in some children the lesions had persisted for over two years. On inquiry, I learnt that the treatment was started only when the doctor was convinced that the lesions belonged to the persistent type. I was then taken to the hospital, which though spacious, was not very clean. It was full of patients and the wards for children and adults were not separate. There were two non-lepromatous children in the ward and their lepromatous mother was sleeping with them on the same bed. All varieties of cases including those

of pulmonary tuberculosis were kept in the same general ward with other patients. After lunch I studied some histopathological sections with Dr. Nolasco and in the evening I went with him to take a round in the leprosy section of the settlement where I met many patients busy in their homes or shops, or gambling and playing cards. During my stay I used to devote the mornings to seeing clinical work or to discussions with Dr. Wade. In the afternoons I used to be busy examining the histopathological sections in the laboratory. For the evening Dr. Nolasco used to plan something different every day, so that I was kept busy all the time.

Dr. C. B. Lara, the Chief of the colony, had gone to Manila for some work and I met him on the 2nd February. In addition to his usual medical and administrative duties he had to work as a judge. In the colony itself, there was a jail to which all the leprosy patients were sent even if the crime was committed outside. The jail was not dependent for its work only on people outside Culion, as the colony itself provided many persons to fill it. During my stay, there was a stabbing case after getting drunk and losing in gambling. The police force to look after the colony and the jail consisted entirely of the patients, who were in Government service. Anybody who really wanted to understand the significance of Culion Colony had to know even its lay-out for that was responsible for creating some problems. The island is about 650 sq. miles but only a small area of the land, probably $1\frac{1}{2}$ miles long and about 2 to 3 furlongs in breadth, is utilised for the colony and the staff. The inhabited area is hilly and covered all over with a variety of trees and creepers. Various quarters are located at different levels and are connected by motorable roads. The main road continues beyond the colony to the agricultural lands, where the patients live in single isolated blocks very near their farms, while some live on the sea shore and do fishing. Many of the families, thus stay miles away from the main Settlement and come there only

for business or treatment for other ailments but rarely for leprosy. All over the place I could see shops run by the patients; there were general stores, vegetable shops, cobblers, barbers, tailors, carpenters, restaurants, hotels, workshops, and every other conceivable kind. Though they stayed in the colony, they were completely independent, with the result that many of the active cases also did not take the treatment or attend the clinic, except when they wanted to do so of their own accord. Many of the residential houses of the patients had been constructed at Government cost, while some had been built by the patients themselves; but the general impression created was that they lived as if they were the owners.

In the beginning men and women were kept in separate blocks. But it created resentment among the patients and when they made trouble, the authorities had to permit marriages. Most of the patients being Roman Catholics, birth-control or sterilisation was out of consideration and every year a large number of children were born. At the time of my visit there were 1647 adult patients out of whom 912 were married.

For recreation they had wrestling matches and cockfights. There were facilities for playing many other games and a theatre in the healthy section, where the patients had a block for their own use. They also went fishing and hunting. Sanitation and general cleanliness were not of the same standard as in Japan.

For the past few years the colony was catering only for those patients, who were transferred there from other colonies, reasons for transfer being mainly three. Some went there because they wanted to lead a married life, others because they wanted to earn more money and the third group consisted of those who were sent there because they were unmanagable in other colonies. Thus many of the inmates were permanent settlers.

The history of Culion Colony is linked up with the history of leprosy in Philippines as well as with that of the Leonard

Wood Memorial (American Leprosy Foundation). Leprosy had existed in Philippines even during the Spanish rule. Nothing much was done then, except that the Franciscan monks had started about 300 years ago the San-Lazaro Hospital in Manila and a small hospital in Cebu. After the Spanish-American war, the American doctors who went there realised the severity of the problem and in 1903, the U. S. authorities in Philippines enacted the law of compulsory segregation and selected Culion Island for isolating all the cases. The first patient was taken there in 1906 and very soon the number started swelling. Within a few years there were thousands of patients in the colony and it thus became the world's largest colony.

After the appointment of General Leonard Wood as the Governor of Philippines, the anti-leprosy campaign took a new turn. Being a doctor he could realise the magnitude of the leprosy problem in Philippines and allotted a substantial part of the annual budget for anti-leprosy work. But even that was inadequate for dealing with the problem. In the meantime Dr. H. W. Wade, who started working in Culion Island, did some research work, which impressed Governor Leonard Wood so much that he wanted to start a Research Foundation there. But the Government of Philippines had no money for doing anything more and so Mrs. Wade was deputed by Governor Wood to go to America to interest the American people in the necessity of further research. Thus it was that Mrs. Wade met Mr. Perry Burgess in connection with the collections for Leprosy Research work in Philippines. He joined her campaign and in 1927, the American Committee for the Eradication of Leprosy was established. Those two worked hard and money started pouring in. But soon afterwards Governor Leonard Wood developed a tumour of the brain and though operated, he did not recover. On his death, the name of the organisation was changed to Leonard Wood Memorial for the Eradication of Leprosy at the suggestion of Mr. Perry Burgess.

Since its inception, the Leonard Wood Memorial (or American Leprosy Foundation as it is called) is taking keen interest in the leprosy problem in Philippines and is conducting various research activities, many of which are located in Philippines. Dr. Wade, who is the Associate Medical Director of the Leonard Wood Memorial, has been staying in Culion for over 30 years now. Though he is not directly connected with the colony his presence there seems to me to be a positive asset to the colony. The Leonard Wood Memorial has constructed many buildings in Culion Colony, including a spacious Laboratory.

At the time of Japanese occupation there were about six thousand patients in the colony. Dr. John Hanks, Dr. Wade and their families were also there. After the occupation there developed an acute shortage of food and patients started dying of starvation. Those, who remained behind, were too weak to remove the dead bodies. Many were buried very near the hospital in shallow graves. Dr. Nolasco, who was the acting chief then, tried his best to procure food for the patients, but the Japanese did not give it. They however permitted him to let go those of the patients who wanted to leave. Many had already died, some were too weak to go, but some of them managed to build their own boats and sailed away. Many of them were torpedoed or sunk by mines and probably only a few reached their homes. The two American doctors, Hanks and Wade, and their families were taken as prisoners of War, ordered to leave the island and go to the concentration camp. But Dr. Nolasco convinced the Japanese officers that if they were permitted to stay at Culion, the Japanese would save their expenditure on them and at the same time they could work for the patients. His proposal was accepted only when he gave his personal security about them. I heard the whole sad story from Dr. Nolasco in one of our evening rounds.

The story of the children born in the colony was equally

sad. With the permission for marriages the birth-rate started increasing rapidly and though the administrators realised the necessity of removing the new-born children from their infectious parents, they could not keep pace with the birth-rate with the result that the period of separation varied from 5 months to 5 years. On removing them from their parents, they were first kept in the nursery in the Settlement, but it took about a year or two before they could be sent out to some of their relatives or the welfare society in Manila. Moreover, as they were segregated too late, some of the children developed the lesions in the nursery and had to be returned to their parents in the colony. Some of the children died either before separation or in the nursery. Those, who survived all that, were sent out and in that way hundreds of children had left the colony. But after they went out, there was very little follow-up and not much was known of their future.

Between 1927 and 1932, there was a restriction on marriages amongst patients in the colony and the birth-rate went down considerably. Many children died due to epidemics of respiratory and gastrointestinal diseases. When the restriction on marriages was removed in 1933, the birth-rate went up again. By then the welfare societies were so full, that very few of the non-leprous children could be released later on. This resulted in swelling their number in the colony till the time of Japanese occupation, when many died of starvation or illness. I could not get the number of releases of non-leprous children prior to 1933, but during the period of 1933 to 1951, 1087 children were 'lost' either due to death or being sent to the relatives or welfare societies. I was eager to know what happened to those children who had grown up without developing any lesion. I learnt that most of them settled in the colony and looked after their parent's business or started some of their own. Some were sent to Manila or other big cities but surprisingly enough, many of them returned to Culion because they could not be adaptable anywhere else.

Throughout their life, they were brought up in a localised, peculiar type of society and that had resulted in making them misfits in any other. At the time of my visit, there were 389 children staying with their parents in the colony.

Permission for marriages without compulsion of birth-control or sterilisation gave enough of clinical material to the workers to study the disease as it occurred in the children. There was probably no other place in the world, where so much of clinical material could be made available for such intensive studies.

A follow-up of these 389 children, the youngest of whom was a few months old and the oldest was 20 years, showed that 232 i.e., 60% had developed the lesions and 157 i.e., 40% were free till then. But even in those who had developed the lesions, they cleared up in all except 53 children and thus only about 13% of the children developed persistent lesions.

At the time of my visit the nursery was being maintained for a different purpose. Having studied the results of exposing children to heavy infection right from birth, the next plan was to isolate them immediately after birth, repeat Lepromin tests and then after a few years of such isolation return the two groups of Lepromin positive and negative to their parents in the colony and do a follow-up study. With this view, a special nursery was started in the healthy area of the colony in 1948. At the time of my visit it had 51 children ranging in age from the new-born to five years old. The staff of the nursery, which consisted of one lady doctor, four nurses including one sister, sixteen nursing aids and one servant, was not permitted to go to the leprosy section or to have any other contact with the patients. The children were housed in a very spacious building and were cared for very well. They loved the whole staff and appeared to be quite happy. Nobody, except Dr. Lara or an occasional visitor like myself, was permitted to go there but even they did not touch the children. Their parents were permitted

to see them twice a week but only through a glass window. The Lepromin test was repeated at fixed intervals, till it became positive. Dr. Lara was of the opinion that repeated Lepromin tests resulted in changing many of the Lepromin negatives into positives. But some of the children had remained negative in spite of repeated tests. Till the time of my visit none had developed any lesion. Dr. Lara is keen to have many more children for that controlled study but the Government cannot afford to spend more. At that time he was planning to return the two groups (Lepromin positives and negatives) to their parents and do a follow-up study.

Over a thousand healthy persons including children stayed in Culion in fairly close proximity of the patients. They were either members of the staff, their dependents or relations. But till then none had developed leprosy. Some of them were running independent business like shops, fishing, or flour-mills. A school was being run for the children of the healthy workers.

The life of the people was rather too quiet and peaceful and even a small event like a steamer touching Culion was a moment of great excitement. I witnessed one such occasion, when the steamer 'Fartoon' was to touch the port. On 1st February 'Fartoon' was the topic of the day, as the Post Office had received a cable that the steamer was arriving next day. She touched the port early in the morning on the 2nd and almost the whole excited 'town' gathered on the reef and many of them remained there till the steamer left a few hours later. Sometimes even the forthcoming picture remained a topic for talk and an event of great excitement. A visitor like myself was no less an excitement than a steamer, a picture or a stray fishing boat touching the port.

Most of the doctors working in the colony were there for over 20 years and were so much used to the place and the peaceful life there, that they could not think of returning to any big city after their retirement. The doctors and workers did not

use gloves, mask or cap when working with patients and even then not a single case of leprosy was reported in any amongst them.

Reviewing my experience of six days at Culion I found that apart from what I owed to the patients I owed a great deal to many of the workers. From amongst the doctors, everybody had obliged by giving whatever information I wanted and many of them had to spend quite a lot of their time for me. Dr. Lara, in spite of his being occupied in multifarious activities, discussed with me his experience of 30 years of leprosy work. I was with Dr. Wade almost on alternate days and he willingly spared his time for me. Dr. Nolasco had been my constant companion and looked after me as if I had been his personal guest.

Amongst many others I had met there, I could not forget Father Vallalonga, who at 82 was in Culion and wanted to die there. His charming assistant was equally unforgettable. The laboratory technician was the second man I had met on arriving in Culion and till the last minute he bestowed his care on me. The Sister, the lady doctor and Miss 'Josephine' were my constant companions at the table.

On 5th of February, I left Culion in Dr. Paras's motor-launch and returned to Manila.

I was seriously considering Dr. Wade's suggestion to visit Kaula Lampur and see Dr. Molesworth's work, but I had very few dollars with me, while the Pound traveller's cheques were not valid in Philippines. Moreover, with my experience of the immigration department in Philippines, I was rather afraid to go to Malaya where the political situation was not very favourable for travellers. But I decided to utilise my free time to find out the chances of visiting Malaya. I started on the adventure quite

early the next morning and shuttled between PAA office, the immigration department and the Indian Embassy only to learn in the afternoon that I could not get a visa for Malaya in such a short time.

XIV

LEPROSY PROBLEM IN PHILIPPINES

LEAVING for Cebu at 3 p.m. by a PAL Plane, we flew over Manila waters where I could see from the rusty water round about sunken ships, the extent of damage that had been done to the port and the steamers. The flying time from Manila to Cebu is $2\frac{1}{2}$ hours and the journey over sea, islands, mountains and plains was very pleasant. At the airport I was met by Dr. Guinto. On reaching the hotel I went down for dinner at about 8-30 p.m. to find that the Dining hall was undergoing a rapid transformation, and waiters were more interested in removing furniture and dishes rather than serving me. I learnt that every night the hall was changed to a Ball-Room, where a 'Dancing Club' was carrying on its business. That being a Saturday night a larger crowd was expected. Hurrying through my dinner, I returned to my room, only to toss about in bed till early morning, due to the disturbance which was too near me. Till lunch-time on Sunday, we toured the city of Cebu, which showed sufficient evidence of the damage they had suffered in World War II due to the bombing by the Japanese as well as the Americans. Some of the shops were owned by Indian merchants dealing in jewellery, diamonds and watches.

Dr. Guinto, who is the Leonard Wood Memorial's epidemiologist, has been carrying intensive epidemiological surveys in the population and his work being on the same lines as my work in India, I spent the afternoon in getting details of their scheme and method of keeping the data, and in studying the statistical material he had collected.

Monday was spent at the Leonard Wood Memorial's

Eversly Childs Treatment Station, a few miles away from the city. It is a modern colony, well situated and well-equipped, and provides facilities for agriculture and farming. The buildings are neat and clean. Everything is provided free to the patients and if they worked for the colony they get remuneration. At the time of my visit, there were about 900 patients. I spent about four hours going round the colony and seeing the work in different departments. After lunch I saw the Leonard Wood Memorial's 'Evaluation of the drug' unit under Dr. Tolentino. The patients and their case-sheets were kept ready for me and within two hours I could see a great deal of the clinical material. One note-worthy feature of the tuberculoid lesions in Philippines was that the nerves were not involved as commonly as one found in India. I had by then seen two units but where the patients were of different races. The methods of study were the same, but the conclusions of the two units differed. I had a talk about the Japanese Unit with Dr. Mitsuda, and he had told me that in Dr. Miyata's unit 'Sulphone treated' cases were selected for trial, while I saw that in Dr. Tolentino's unit all the cases were previously untreated and thus the two groups and consequently the results were not strictly comparable.

I spent a good deal of time with Dr. Tolentino who carried out his work very patiently and methodically. He is assisted in his work by Mrs. Tolentino, who is a trained nurse. The Tolentinos had invited me for dinner in a Chinese Restaurant and that evening I heard the thrilling story of Dr. Tolentino's wartime adventure during Japanese occupation of Cebu. The Japanese asked him to continue his work in the colony, while one of the guerilla chiefs, who stayed in hiding very near the colony, also encouraged him to do it. One day while Dr. Tolentino was driving in his jeep other guerillas, who did not know of the arrangement, arrested him. Dr. Tolentino was court-marshalled as a collaborator and sentenced to death. For execution he was transferred to another place and there while he was counting the

last moments, came his friendly guerilla chief by accident and ordered his release. But Dr. Tolentino was afraid that if the Japanese came to know of his association with the guerillas, they in their turn would suspect him and shoot him immediately. He, therefore, refused to return to the colony, and sent word to his wife accordingly. But he was not left in peace for long with his new guerilla comrades and fell into the hands of the Japanese, who naturally asked him to explain his absence from the colony. Fortunately, Dr. Tolentino's prevarications proved satisfactory.

I went with Dr. Guinto to the villages in that area to see the patients in their homes. Our first halt was a few miles away from Cebu in a small primary school. It was slippery all over due to incessant raining yet many of the children had come to the school probably because Dr. Guinto had given them a notice about our visit. I examined all the cases of the early lesions in the children which were mainly of two types. Some showed a hazy but slightly erythematous flat macule with ill-defined borders; all these were bacteriologically and Lepromin negative. The other type showed well-defined hypopigmented flat macules, which were all bacteriologically negative but the Lepromin was positive in some and negative in others. Dr. Guinto had made a detailed study of those early lesions and their further development, by doing the first survey in 1936 and a re-survey of the same population after 15 years. As a result of his study he had come to certain conclusions which we discussed for a long time. Having finished the work at the school, we visited some of the villages on the motorable roads. It was raining very heavily and most of the people were indoors. Many of the houses were built upon pillars about 4 to 5 feet high. As the whole structure was made out of wood, the houses had to be small in size. Thus overcrowding inside was inevitable but the general conditions of living were a bit better than those in India. We toured for about five hours and covered a large area, part of which was

hilly. Some of the villages were removed from the main roads and I was informed that they were not approachable in the rainy season.

Returning to Manila the next day I went out to have a round of the city. Remodelled Jeeps plied as 'buses, the commonest means of transportation. The people were probably taller, of better build than Hawaiians, but the features of both had some general resemblances. The skin was coarse and brown and the nose was broad. Rice, fish, pork and beef were the main articles in diet, but the preparations were not as tasty as of the Japanese. The Spaniards had left behind their language and Roman Catholicism, while the American culture had reached, probably, even the remotest villages. Many spoke and understood English in the city. The economic condition of the people appeared to be slightly better than that in India, but probably poorer than that in Japan. The sight of a number of beggars in the main streets of Manila was not uncommon.

With Dr. Rodriguez I attended the skin clinic and saw many interesting cases. I had also the pleasure of meeting many medical students, who came there for training. Dr. Rodriguez has been doing anti-leprosy work for over 25 years and has also done a great deal of research work. I had first met him at Boston and we had spent the whole day in discussing immunity, allergy, Lepromin test, classification and many other subjects. After my arrival in Philippines, we had been together on many occasions. He held very definite views on the role of a Government in conducting anti-leprosy activities. According to him, every country necessarily must have a central authority to co-ordinate the work of all agencies. Work cannot progress if every agency works independently of the other. In any country only the Government can act as the guiding and co-ordinating agency, while the role of all the non-official agencies is to help

the Governmental efforts and work according to the plan of the Government. I have to support Dr. Rodriguez's views on that point as, in all the countries I had visited till then, the Governments were conducting anti-leprosy activities and with only a few non-official agencies in each country, they could show fairly effective work.

Later on I went to Talla Leprosy Colony which is situated about 25 to 30 miles away from Manila. The Chief of that colony, a smart young doctor, took us round. The whole colony is built on modern lines. The Chief had arranged for my talk to a small group of patients, who understood English very well and were probably the leaders of different groups of patients in the colony. I talked about my impressions of the anti-leprosy work in their country.

One of the sections of the Bureau of Hospitals is the section of Leprosy with Dr. Jose N. Rodriguez as the Chief. The medical students have to undergo regular intensive training in anti-leprosy work and therefore, as doctors they are much better off in diagnosing cases of leprosy than their compeers in many other countries.

There are nine leprosaria and four special 'Skin Clinics' (which means leprosy clinics) in the endemic areas. In addition, Government Laboratories attached to Government Hospitals, do diagnostic work. All the reported or suspected cases are, therefore, first directed to one of the centres mentioned above. From there the infective cases are sent to the regional leprosaria while the 'closed' cases are kept under the charge of the District Health Officer, who is to arrange for their O.P.D. treatment in a suitable place. Due to the compulsory law of segregation, home isolation is not permitted.

The following table gives the number of patients in different leprosaria as on 30th November 1950:

Leprosarium	No. of patients
1. Bicol Treatment Station	.. 339
2. Central Luzon Leprosarium	.. 1400
3. Cotabato Treatment Sub-station	.. 51
4. Culion Leper Colony	.. 2104
5. Eversly Childs Treatment Station	... 991
6. Lanao Treatment Sub-station	.. 37
7. Mindanao Central Treatment Station	.. 197
8. Western Visayas Treatment Station	.. 667
9. Sulu Treatment Sub-station	.. 113
Total: 5899	

In addition to the Governmental activities, the Leonard Wood Memorial is carrying on its research activities in epidemiology, 'Evaluation of the drug' and some other aspects of anti-leprosy work. There is a local voluntary agency which collected gifts for the hospitalised patients. I was more interested in understanding the leprosy problem in Philippines rather than in assessing it or giving any judgement. I had seen a good deal of their work, talked with leprologists and seen the patients in the colonies. Philippines presents all the important problems arising out of the anti-leprosy campaign, and it also shows the basic requirements for organising effective control methods. My analysis was as given below:

1. *Finances and other available aids:*

Since 1903 the U. S. Government had started taking keen interest in the problem. *Thus prior to their independence, the Philippine islands were under a Government, which had taken active measures to tackle the leprosy problem.* The economic conditions of the country, though not as good as in Western countries are still much better than in India.

2. *Effects on the incidence of the disease:*

With the Americans as the rulers, the country has advanced comparatively more than other dependent countries. Active

anti-leprosy measures initiated by the foreign government of the country received substantial help from the people of the ruling nation, who volunteered aid with no other purpose but of learning more of the disease and of eradicating it. I could not find out exactly what was the cumulative effect, for I did not have the statistical data about the incidence of the disease 50 years ago. It was, however, quite safe to believe that a concentrated and systematic effort as was made there, should have certainly resulted in checking the spread or in bringing down the incidence at least to some extent.

Comparing the history of the last 50 years in Philippines, with that of the corresponding period in India, I could see that in India the picture was completely reversed as far as the initiative and purpose of the activities were concerned. The establishment of the Indian Branch of B.E.L.R.A. in 1924, was the only incident which corresponded with that of Leonard Wood Memorial, but the funds at the disposal of the two agencies were so disproportionate to the problems facing them, that the two really could not be compared in any way.

From the comparatively recent figures available to me it was seen that in 1941, before the outbreak of war, 8800 cases were in isolation, while in 1950 only 5900. During that period some cases died of starvation and some were newly added but as the exact figures were not available, it was not possible to say whether the net result was, a decrease or increase in number. The local leprologists, however, believed that the number had remained constant.

At the time of my visit the *estimated* cases were as follows
(in *round* figures):

Total population : 20,000,000

Infectious cases in colonies	Inf. cases outside colonies	Closed cases	Total No. of cases	Incidence of cases per 1000
6000	4000	10,000	20,000	1.0

Comparing the incidence of the 20,000 (estimated) cases in Philippines with that in Japan, I could see that in 1904, the incidence in Japan was 0.64 and since then it has been declining. In 1950 it was 0.15. Even if my estimates for the incidence of cases in Japan were considered it was clear that the incidence of leprosy in 1950 in Philippines after so much of anti-leprosy work of 50 years, was very much higher than that of Japan 50 years ago. Comparing with the incidence in India, it was only 1/4th or 1/5th. These figures very clearly show the amount of work that has yet to be done in Philippines and India to come to the level of Japan, which herself has yet to do more to reach the level of the U.S.A.

3. *Availability of Personnel—especially doctors:*

One of the leprologists told me why in the recent past, the young doctors were not taking up anti-leprosy work as others had done before them. General Leonard Wood was himself a doctor and realised that the doctors taking up anti-leprosy work had to stay in remote and isolated places. He, therefore, decided to offer a higher salary to the doctors taking up anti-leprosy work. A doctor doing general medical work in the Government service used to get only 100 Pesos i.e. \$50 per month, while a doctor in the anti-leprosy service was paid 250 to 300 Pesos i.e. \$125 to 150 per month plus an allowance of $2\frac{1}{2}$ Pesos or $\$1\frac{1}{2}$ daily and in addition was given free furnished quarters, crockery, etc. In his time General Wood could, therefore, secure the services of some of the first-rate doctors and his wise step had repaid fully the expenditure. But after his death, conditions changed again and since then doctors are not available as easily as in his time, though every year the medical colleges are turning out many new doctors.

4. *Problems arising out of segregation on separate islands like Culion:*

Once it was thought that segregation of infectious cases should be done exclusively on separate islands, almost complete-

ly cut off from the general society. With that view, many countries had started colonies on separate islands, of which I had visited some in Hawaii, Japan and Philippines. But in the past few years, the old viewpoint has changed, due to many reasons and such colonies are no more recommended except probably by the Japanese leprologists. Just as in Hawaii, the authorities in Philippines were also in a dilemma about the continuation of the Culion colony. One set advocated its continuation, while the other did not, and both sides had strong arguments in support. But here I am putting down my own observations:

(i) Mere isolation of an infectious case without any treatment is not an end in itself. But in Culion I had seen that *many of the active cases did not take any anti-leprosy treatment* except when they were in reactions or had some other complications. There were a number of reasons for this attitude but the main cause was the inherent weakness of administrative control, which arose from the very nature of compulsory segregation on isolated islands like these. Even the best administrator could not have been able to enforce compulsory treatment to all active cases, especially when segregation was compulsory and the Settlement was spread out over so wide an area as in Culion.

(ii) In spite of permission for marriages, many patients live together as husband and wife *without the legal ties of marriage* but with all the advantages.

(iii) Sterilisation and use of birth-control measures were prohibited, which resulted inevitably in a *large number of births every year*. This process had gone on for so many years that the relatives and the society outside have been reaching the 'point of saturation' beyond which the children born there cannot possibly be sent out. Thus every year the children born there are accumulating in the colony and being exposed to infection daily. That place has therefore, become a *breeding ground for adding new cases every year* to the previous lot.

(iv) Some of those children who were born there and had

escaped infection, *could not adapt themselves to life at any other place except Culion* and thus their number is being added every year to the inmates of the colony.

(v) *Colonies on separate islands were costly to maintain* than those on the mainland, irrespective of the benefit of plenty of land or wood there.

(vi) *It is difficult to get suitable workers* to stay in such isolated places especially when the scales of salaries on the mainland and the separate islands are the same.

(vii) The result of taking away leprosy patients to such isolated places far away from the general society is not beneficial to the cause of leprosy in the long run, even if it appeared to be advantageous for the time being. The outlook towards leprosy is changing and *the disease which was once purely a social problem needing only compassion and humanitarian outlook, is gradually becoming a Public Health Problem*, to be dealt with almost on the same basis as the other communicable diseases. Though that long-needed change of outlook has not taken hold of the society completely, yet there is sufficient evidence to indicate the change. We are still in a transitory phase, when the mutilated and deformed cases are not absorbed in the society easily, but with persistence in our efforts even that can happen some day. If in addition, we can get more potent drugs and if patients come for treatment in the early stages, the incidence of mutilation and deformity can also go down considerably. And if we have to proceed to these much desired ends, the society has to be constantly alive to the leprosy problem. *Removing the cases to far off islands completely out of sight and thought of the society, is not conducive to the world-wide effort of changing the outlook of the society.*

As against all these disadvantages, Culion Colony afforded the following two distinct advantages:

(1) The permission for marriages, the consequent high birth-rate and the inability to remove the children from the infec-

tive parents, had given an *excellent opportunity to the workers to study the development of the lesions in children*. The situation there had facilitated research in other aspects of the problem also.

(2) Continued and prolonged stay of the healthy workers and their families on the same island, without taking any extraordinary precautions as in Japan, and without development of a single case of leprosy, *had exploded the myth of the danger of infection to the workers and their families*.

But of all the disadvantages even the one producing the bad effect on society (No. vii above) is enough to cancel out all the other advantages and such colonies on separate islands, completely cut off from the society, cannot be recommended as a general policy to be adopted by any country. As regards continuation of Culion Colony, that depends mainly on the availability of finances but it may remain there just as an exception and not as a recommendation.

5. *Results of compulsory segregation on the patients in the colonies.*

The reaction of the society towards a person, who showed visible signs of leprosy, was almost the same in all the countries I had visited and such patients found it difficult to earn a livelihood for themselves, their families and relatives and society wanted to get rid of them. Those, who could conceal the disease from society, could earn their livelihood but many of them were not welcome in their own homes and at times were forced to leave the house. But their further fate depended on whether or not there was a law of compulsory segregation.

In India segregation is entirely voluntary and still thousands of patients, who are not necessarily physically disabled, seek admittance to the colonies, but accommodation being limited, all cannot be admitted and thousands of them are forced on the streets to take to begging.

The patients in those countries, which had enacted the law of compulsory segregation, should have been happy with that law, because they had been provided shelter and a free maintenance and were saved from being thrown on the streets to beg. But in reality the reactions of the patients, with the exception of a few, were very much different. Many of them believed that just because they were segregated under the compulsion of law, they had a right to expect everything free from the Government, even if they were fit to do some work for the colony to make it partially self-supporting. Those who worked expected full payment in return, though everything was provided free. They resented discipline and the administrators had to face serious problems arising out of resentment. The patients could not be sent home because of the law of segregation neither could they be treated in any different way.

In spite of realising the necessity of aiding the families of the segregated patients, the Governments or the non-official agencies could not do so, mainly because of their financial difficulties. Maintaining the segregated patients was itself a heavy job. These results of compulsory segregation on the patient constitute a lesson to those countries which have a colossal leprosy problem to face and only limited financial resources.

I was to leave Manila for Hong Kong early next morning and returned to my hotel. At the airport, the immigration officer was ready with my passport, which came back to my hands safely after a lapse of 17 days. The customs department did their job so well that the articles which I had packed very carefully to the brim in my suit-case refused to be accommodated in the same space, after being handled by the officer. Having passed through customs departments at many airports, I have come to believe that it is a place to find out the role the wives play in the lives of the passengers, using as the test the passengers' incapacity to create order out of the disorder created by the customs authorities.

XV

HONG KONG

AFTER receiving a signal from Hong Kong airport, we left Manila at 6 o'clock in the morning but within an hour visibility became so low, that all round the plane there was nothing but white fog. At 9-30 the purser came out to announce that we had been hanging over the Hong Kong airport for over half an hour and that we were returning to Manila, as landing was impossible. Never for a moment had any of us realised that we were circling over one place and not going any distance in spite of constantly travelling for half an hour. And as if to celebrate the good news of return we were very soon served sandwiches and icecream. I wondered whether it was their custom to keep these things ready expecting at every flight a return without landing at Hong Kong. We were back in Manila at 12-30 but before we landed all arrangements for our stay at Manila and also for the return flight on the next day were ready. We were PAA's guests from the time we had handed over ourselves to them to be taken to Hong Kong and we continued to be so, even if we were to land there after a few days. But even that attractive offer of the PAA did not tempt me and I decided to take only one more chance of landing, failing which I was to proceed direct to Bangkok, dropping Hong Kong from my itinerary. Next morning when we left at 8 o'clock instead of at 6-30 a.m., the weather was as bad as on the previous day. All were in suspense upto 11-30 when we received a radio message about safe landing of the first plane, which had left an hour earlier. In another half an hour I experienced a feeling of losing height and soon we landed safely.

Shri N. T. Assomull, an Indian businessman in Hong Kong

and Mr. Dennis Frone, the business secretary of the Mission to Lepers, Hong Kong branch, had come to receive me at the airport. Mr. Frone, a young Englishman belonging to the 'Friends Service Council' (Quakers), had a pleasant personality. Right from the first moment we became friends and throughout my stay there he was always with me whenever I wanted him.

Hong Kong is made up of two sections, one is the mainland and the other is an island near it. That portion of Hong Kong, which is a projection of the mainland of China is known as Kowloon. On three sides, it is surrounded by the sea and on the north, the border of Communist Territory is only 22 miles from there. To the south of Kowloon, separated from it by a narrow bay, is the island known as Hong Kong. Hay Ling Chau is another island about 10 miles to the west of the two, where the leprosy colony is located. My hotel being in Kowloon, we decided to walk to the downtown area there. It was a Sunday but the shops were open and the streets were all crowded with people. Seeing so many Chinese for the first time, I was interested in observing them. In spite of their apparent resemblance to the Japanese, the Chinese showed marked differences. They are mostly short and distinctly yellow-skinned. Their eyes look rather sleepy. Men and women are dressed almost in the same way and wear a close-collared coat and a creaseless ankle-high pyjama, made out of black or blue fine cloth. Women carry the very young children tied on their backs. Many of the older women have very small feet, and thus a very peculiar wadling gait. The shops with a paved foot-path in front were packed with articles but not with any great showmanship. That setting of shops and the 'buses reminded me of some areas in Bombay, the only difference being in the letters on the sign-boards and of course, the people inside.

While approaching the island of Hong Kong we could see a row of very tall buildings on the shore. The main street is lined on both the sides by a continuous row of huge stone and

cement buildings, housing the shops and big business firms which, being Sunday, were closed in contrast to Kowloon. Off the main street, went narrow steep by-lanes crowded with smaller shops on either side. From there we went to the far off end of the seashore to receive Dr. Fraser, who was to arrive there from Hay Ling Chau. Dr. Fraser's launch not being in sight I utilised that free time in exploring that end of the shore, which presented a very striking contrast to the other. It is a slum area, where labourers and fishermen lived in abject poverty. Men were out to work and women were busy washing clothes and dishes. There was no trace of cleanness anywhere. The children were playing in their dirty rags. I had seen enough of poverty in India and I knew what it meant. Seeing similar conditions elsewhere was, therefore, more meaningful to me than to those who had only read of poverty. When Dr. Fraser arrived, we went to his office on the island and spent the whole evening collecting information about his work. Thus on my first day in Hong Kong I had seen more of poverty than wealth.

Monday was the Chinese New Year's day and I could see the people in their traditional costumes. The streets, 'buses, trams were all full of people. Many men wore long gowns while the women had close-fitting long frocks, split up on the sides. In spite of the New Year's day, I did not see much of liveliness.

We also went to see the 'squatters' staying on the hill-slopes in Kowloon. That was another group of people belonging to the lowest economic strata of the society living in the most unhygienic and insanitary conditions, in Bamboo huts. Everywhere in that locality, of about a thousand persons, I saw nothing but poverty and filth.

From there we went again to Hong Kong Island to meet Dr. O. F. Skinsnes, the Professor of Pathology in the University of Hong Kong. He was actively interested in the leprosy prob-

lem in and around Hong Kong, especially from the viewpoint of teaching and research. He had collected a great deal of information about leprosy as it existed there. In his quiet way he told me how they wanted to build up a first class Leprosarium and a Hospital at Hay Ling Chau. He showed me various diagrams and photographs, which were lying all over in his room. Dr. Skinsnes, though an American, spoke Chinese very well, for he was brought up from his childhood in China.

I attended a Rotarian's lunch as Mr. Assomull's guest. That day I spent a good deal of my time with Mr. Assomull and being a shrewd businessman, he told me many interesting stories about his line.

That afternoon I went with Mr. Frone to the peak of the island by the cable Railway. The platform at the foot of the hill was almost on a level, but beyond it, the slope of the tract was at some places at an angle of 45° . The 'train' consisted only of one compartment like a tram-car. The weather was clear, and we could have a beautiful view of the island, the port and the bay from the top.

Twice a week in the evenings, Dr. Fraser used to run a leprosy clinic in the out-patient department of a General Hospital in Hong Kong and that being a clinic day, I spent the evening there in examining the cases. I was happy to see that many of the patients were very regular in taking the treatment and the attendance also was very good.

The history of leprosy in Hong Kong is very interesting. Leprosy had existed in Hong Kong for a long period, but having no leprosarium there, the patients were referred for admission to the adjoining province. This practice went on till that province was taken over by the Communist Government. Since then the patients were accumulating in Hong Kong and to add to the previous number, new patients were taking refuge in Hong Kong from the other side of the border. Some of them were admitted

in a special ward in a General Hospital in Hong Kong. As time passed, the situation was worsening and ultimately the Government had to take a serious notice of it in 1950. The University of Hong Kong was also planning some research work in leprosy and from 1949 they had started collecting detailed information about the leprosy problem as it existed there. In 1950, the Government decided to give some grant to the General Hospital to build a few huts in some isolated place in Hong Kong. 'Sandy Bay', a place on the beach very near the Coffin House, was selected and construction started. In the meantime the China Branch of Mission to Lepers was also negotiating with the Government and in November 1950, they established the Hong Kong Branch of the Mission to Lepers with an understanding that the Government and the people of Hong Kong gave a very generous grant for their activities, which consisted of starting a Leprosarium for Hong Kong at a suitable place. By December 1950, the huts were ready at the 'Sandy Bay' and 161 patients from the General Hospital were transferred there. The newly established Hong Kong Branch of Mission to Lepers undertook the responsibility of managing the medical side, while the hospital was to provide all the other necessities; but the 'Sandy Bay' colony was to be only a temporary place of isolation, till the leprosarium came into being at a suitable place. A frantic search for a suitable site for the new leprosarium was started and many places were examined and given up for one reason or another. Of all these, an island about 10 miles to the west of Hong Kong, was the only place which could be secured from the Government without inconvenience to anybody. But it had limited water-supply, limited agricultural land and difficult to reach. However, the island was approved and renamed as Hay Ling Chau (Isle of Happy Healing). The few inhabitants, who were staying there, were given compensation by the Government and the island was handed over to the Hong Kong Branch of Mission to Lepers in August 1951. On that very day a pioneer

party of 22 patients was transferred there from the 'Sandy Bay' Settlement and lodged in the few huts left by the previous inhabitants. The first batch of patients started work and then other healthy workers, money and material came in. Engineers, architects, agricultural experts, etc., visited the place and gave advice from time to time. Volunteers from the Army and the other Services offered free week-end labour. As new buildings and other facilities were increasing, patients were being transferred from 'Sandy Bay' to help others. Substantial grants towards capital expenditure and maintenance cost were given by the Government and Jockey Club of Hong Kong. Equipment and other supplies were given by many other agencies from Hong Kong, London and other parts of the world.

The two persons guiding the whole campaign of constructing a new Leprosarium were Drs. Fraser and Skinsnes and they were ably helped by a number of their colleagues.

By September 1952 all the patients from 'Sandy Bay' were transferred to the new Leprosarium. Having heard the thrilling story of Hay Ling Chau Colony, I was eager to see it. In the early morning on Wednesday, I left Hong Kong by the launch owned by the colony and in an hour reached Hay Ling Chau. I met at the wharf Dr. Fraser, Mrs. Fraser and Mrs. Campbell, who were waiting for me.

Just opposite the wharf was a large building with three big halls. In the central one, was located the carpenter's workshop, while in the side halls stayed the patients. Everywhere in the colony, patients were provided bunks instead of cots, so that two could stay in the same ground-floor space, one above the other. About 101 patients resided in that building. Further down I saw the kitchen and office building for the patients. To the south, near the beach was a building specially constructed for the convenience of those patients, who were engaged in fishing. I was told that during the season, they had collected so many fish, that even after supplying the fish very liberally to all the

patients in the colony, they had to dry and salt the surplus as fertilizers and to feed the pigs.

Crossing over the ridge to the other side we went to women's and children's blocks. They were neat and clean and were provided with kitchen. Further down at a distance were men's blocks and kitchen. One striking feature of these blocks was that a room 15 feet long by 15 feet wide accommodated 12 patients. Along one of the walls, two bunks were kept longitudinally and in the space between the two the third one was kept at right angles; a set of three was arranged similarly at the opposite wall. Apart from the blocks, there were smaller buildings called 'cottages', in each of which only a few people could stay. There was a large piggery with many well-fed pigs. The patients looking after the pigs stayed in the 'cottages'. Scattered here and there were small agricultural farms, where the patients had grown sufficient vegetables during the season. After supplying to the patients the surplus was preserved for the off-season by salting and pickling it.

Next morning we first went to the patients' block to examine interesting cases. At that time there were about 300 patients. The Mission to Lepers did not permit marriages but they had to admit thirty married couples because they were transferred from 'Sandy Bay' Settlement. About 14 children were born there, but they were separated immediately after birth and were sent out to orphanages. Majority of the patients in the colony were Chinese Christians.

The Hospital building was under construction and after its completion, arrangements were to be made for medical students to go there and work for some time. A fully equipped research laboratory was also to be started. The training and research activities were to be carried on by the University of Hong Kong.

That colony presented quite a pleasant contrast to all others I had seen. In Hay Ling Chau the patients were actively working for the colony and they seemed to be quite happy about it.

I liked the colony but not its isolated situation on an island.

When asked about the leprosy problem on the other side of the border, Dr. Fraser said that he heard the Provincial Medical Officers were taking keen interest in the leprosaria. It was reported that a new leprosarium was being constructed for the soldiers but they treated their patients by 'Tissuetherapy'.

Next morning I left for Hong Kong. Mr. Frone met me at the wharf and from there we went for a long tour of Hong Kong island. The tour was indeed educative for we visited dairies, farms and other such places, where I could see the life of the people. I wanted to see some refugee camps and after lunch we went to one of those. The camp had about 2000 persons, men, women and children. They were all accommodated in large Bamboo-built halls, which contained small open cubicles each with one family in it. The space in the cubicles was uncomfortable even for one person but a whole family lived in it. Everywhere I saw mud and filth and long queues of people waiting for their turn at the food distribution centre.

XVI

BANGKOK—MY LAST PORT

THE flying time from Hong Kong to Bangkok is only five hours but till we came over the land, the flight was boring. Then however, passing over mountains, plains, long and tortuous rivers, jungles, fields and Railroads, we could see the beautiful landscape, changing every few minutes. We landed at Bangkok at 2 p.m. because the watch had to be set back by one hour.

A room was reserved for me in a Thai Hotel in the heart of the town, just near the office of the Director of Health Services. But as it was a Saturday the Director had already left the office. He, however, wanted to see me in his office on Monday morning, so that he could chalk out my programme. That meant that out of my stay of five days in Thailand three would be spent in Bangkok. I did not know how I could visit Chiengmai Colony about 400 miles to the north within the remaining two days, and return to catch the plane on Thursday for Calcutta. Anyway I decided to inquire about the planes going to Chiengmai. But in the Office of the Airways I learnt that even if I could go by a plane to Chiengmai I would miss the Thursday plane for Calcutta.

As none in my hotel understood English, I prepared a list of few edibles in English and a representative of the Director entered the corresponding Thai words in it. The bell-boys were instructed to get me the preparations which I would point out in the list. In the evening, however, I decided to go to a Chinese Restaurant. But even there nobody understood English, while I did not understand the Thai menu. The only way to get food was to go to the kitchen and by a direct method point out the preparation. But all my efforts failed and had to leave the

place without a dinner. Returning to my room, I went through the prepared list and confidently ordered for fried rice. But the response was shocking for I got only a few chunks of pork without a single grain of rice—it was a preparation of which there was no mention in my list.

On Monday morning I met the Director of Health Services and heard the story about the anti-leprosy campaign in their country and why they had not been able to do much about it. They were waiting for the WHO expert to go there and advise them. After passing an hour and a half in his company, I was again free for the whole day.

Next morning I went by the Government station-wagon to see the Leprosy Colony about 20 miles from there. On our way we had to cross a river in a small boat to reach the colony, which was situated in a sort of a fort on the bank of the river. The Superintendent stayed on the premises. There were about 500 patients. The place seemed to be marshy while the rooms of the patients in some places were almost like sheds. The living conditions were insanitary and unhygienic. The sexes were separated but it was my impression that the separation was probably more of a belief than a reality. The annual deaths in the colony were about 50. Many of the patients on D. D. S. and other sulphones were responding well. I asked about the annual expenditure incurred on the colony but could not get any data. The population of Thailand was about 20 million and the estimates of total leprosy patients varied from 20 to 60 thousands. Of these, about 1200 were isolated in 7 Government Colonies, while about 400 were in Chiangmai Colony, which belonged to the American Leprosy Mission.

The business area in Bangkok, with hundreds of Indians all over, was looking almost like an Indian city. I was told that in Bangkok the Chinese and Indian population exceeded in number the Thais. Except for a small rich section, Bangkok seem-

ed to be a city of middle class and poor people. Nobody had to go far to see poverty and filth, neither was there any dearth of beggars, some of whom were suffering from leprosy. The sight of yellow-robed Buddhist monks was also not uncommon. Temples were beautiful.

Having passed my time till Thursday, the 26th February, I was happy to be in the PAA Office. The plane left Bangkok at 4 p.m. and we landed at the Dum Dum airport after $4\frac{1}{2}$ hours of flying. I waited there for sometime to catch the night plane for Bombay and reaching Bombay on the 27th morning I completed my tour round the world in four months.

XVII

LEPROSY PROBLEM IN INDIA

THE Leprosy problem in India, which is 1/3 of the U.S.A. in area but has over double the population of that country, is associated with the standard of living and health conditions in the pre-independence days. They can best be described in the words of the Health and Development Committee appointed in 1943. Its Report, published in 1946, says:

“Diet surveys carried out in different parts of the country have shown, in typical urban and rural groups, that the food consumed is insufficient to provide the necessary energy requirements in the case of some 30% of the families, that the diet is almost invariably ill-balanced and that there is, in terms of food factors, a deficiency in fats, vitamins and proteins of high biological value. The insufficiency of these essential food factors in the diet of large sections of the people is, no doubt, a contributory factor to the high incidence of morbidity and mortality in the country”. (Vol. I, page 57).

“Malaria is by far the most important disease in India from the point of view of sickness and mortality. Lieut. Colonel J. A. Sinton, a malariologist of international reputation and former Director of the Malaria Institute of India, has estimated that at least 100 million persons suffer from the disease every year in British India, that because of its effect in lowering the vitality of its victims it is also responsible for morbidity from other causes in an additional 25 to 75 million persons annually and that, directly and indirectly, it is responsible for at least two million deaths each year.” (Vol. II, page 143).

“Dr. P. V. Benjamin, Medical Superintendent, Union

Mission Tuberculosis Sanatorium, Arogyavaram, South India, has estimated that the average annual number of deaths from tuberculosis in India is in the neighbourhood of 500,000 and that about 2.5 million open cases of tuberculosis exist in the country. These patients are continually disseminating infection among those with whom they come in contact. If these estimates can be accepted as reasonably correct, they provide some measure of the magnitude of the problem that faces the country." (Vol. II, page 157).

"To sum up, the factors responsible for the low level of ill-health in India include, among others the prevalence of malnutrition and undernutrition among appreciable sections of the people, the serious inadequacy of existing provision for affording health protection to community and a group of social causes consisting of poverty and unemployment, illiteracy and ignorance of the hygienic mode of life and certain customs such as the purdah and early marriage. The cumulative effect of these factors is seen in the incidence of a large amount of preventable morbidity and mortality in the community. The continued prevalence of such conditions for many generations has probably helped to create in the minds of the people an attitude of passive acceptance of the existing state of affairs. This attitude will have to be overcome and their active co-operation enlisted in the campaign against disease, insanitation, and undesirable personal and community habits, if any lasting improvement in the public health is to be achieved." (Vol. I, pages 19-20).

Against this background we must consider the estimated number of leprosy patients which is about 1.5 million, of whom probably 350,000 were infectious.

During my tour of the other countries, I had seen that the anti-leprosy campaign was conducted by the respective Governments, while the voluntary organisations had only a secondary

role to perform. The anti-leprosy campaign being in the hands of the Government, they could bring about improvement in the standard of living, health, sanitation, education, and all these factors had helped considerably in controlling the disease. But in contrast to the other countries the anti-leprosy activities in India always remained in the hands of the voluntary agencies and there was never any nation-wide anti-leprosy campaign.

The first known leprosy colony in India was started in Calcutta early in the nineteenth century, due to the efforts of the Christian Missionaries. Later on 'Mission to Lepers' was formed and beginning with their first colony at Chamba in Punjab in 1875, they gradually extended their activities with the result that in a few years they had started many colonies. Other Christian Missionaries followed suit.

In 1924 the Indian Branch of the British Empire Leprosy Relief Association was started. A few other Non-Christian organisations started their own colonies. The Government also, in addition to sanctioning grants, started a few colonies and clinics of their own.

The evaluation of the work done in the past has been summarised well in 1947 by Dr. Cochrane in the following words:

"This work in India was started in the first instance by those having a desire to help a needy section of the community, *but it was done at first solely on religious and philanthropic grounds with no attempt at eradicating the disease.* In Europe, the Church undertook the task of segregation and control and established lazar houses outside many large towns. *In India, also, leprosy work was first undertaken merely as a work of compassion.* Very gradually as this work was perceived to be vital to the public health there grew up the belief that institutions would ultimately, bring the disease under control. The Government, partly because it considered it to be a duty to look after destitute persons suffering from leprosy, and partly

in the hope of controlling the scourge, encouraged the formation of Settlements throughout India, and gave grants towards their support.

As a result of this some ninety-five leprosy institutions have been established in India, ranging from small homes for the housing of crippled cases with little or no up-to-date medical work, to more modern institutions accommodating 700 or 800 patients, with growing facilities for dealing with all aspects of the problem. The majority of these institutions are owned and managed by the 'Mission to Lepers' which has been the pioneer organisation in stimulating official bodies to assume greater responsibilities for the development of adequate anti-leprosy work throughout India. In 1924, through the efforts of Mr. Frank Oldrieve and Sir Leonard Rogers, the British Empire Leprosy Relief Association was founded. This organisation was the natural outcome of the work of Dr. Victor Heiser and Sir Leonard Rogers and others on the treatment of leprosy. The British Empire Leprosy Relief Association has as its object the stamping out of leprosy from the Empire, and at that time it was thought that leprosy could be eradicated by treatment alone. For the next decade less emphasis was placed on segregation and more on the establishment of out-patient clinics, etc.

It was later gradually accepted that the newer methods of treatment were not producing the results anticipated and that the out-patient clinic would fail to control the disease unless associated with the scheme of segregation. *Thus arose the idea (which has never been completely worked out) of village segregation.*

At present it is felt that the work of the past has been of decided value in that (a) it has kept the problem before the public and has created an interest in leprosy and (b) the more recent propaganda through the out-patient clinics

has rendered the people of the country more 'leprosy conscious', and has consequently aroused a general desire to do something for leprosy in almost every district. It is impossible to state very definitely how far either institutions or out-patient clinics have helped to control the disease. *Out-patient clinics, treating a few dozen or a few hundred cases, but not connected with scientific work, contribute little or nothing towards the control of leprosy. Institutions, in so far as they segregate infective cases and act as centres of training and propaganda are undoubtedly of great value in the general anti-leprosy campaign, but, apart from this, it is doubtful whether they can make any adequate contribution to the eradication of leprosy unless they are linked with a comprehensive scheme of prevention."*

(A Practical Text book of Leprosy, by Dr. R. G. Cochrane, page 192).

When India secured her freedom in 1947, these were the conditions in which people lived. Though the leprosy problem was colossal, the anti-leprosy activities were very meagre and entirely in the hands of the voluntary agencies. To add to the difficulties, over seven million refugees came from the other part of the divided country.

This was the picture on the eve of Independence and from the very first day the Government of Independent India had to face insurmountable difficulties of rehabilitating the displaced persons.

After Independence, there were three important changes brought about in the country, as far as anti-leprosy work was concerned. The first was that the Indian Branch of BELRA changed to Hind Kushta Nivaran Sangh, second was that the Government decided to start a Central Leprosy Research and Training Institute and third was the birth of the Gandhi Memorial Leprosy Foundation in memory of Mahatma Gandhi, the father of the nation. After Mahatma Gandhi's death a fund

was collected with a view to utilise it for those activities including leprosy, in which he was interested. The Leprosy section of the Fund, known as Gandhi Memorial Leprosy Foundation, has a sum of about 2 million dollars at its disposal. As soon as the Gandhi Memorial Leprosy Foundation was formed in 1951, demands started pouring in from various workers for starting new colonies, preventoria or beggars' homes, but before giving grants, the Foundation had to consider how best it could utilise the funds at its disposal. Considering the magnitude of the leprosy problem in the country, its economic conditions, and the comparatively very meagre attempts to deal with the problem methodically with a view to control it, the Foundation was convinced that though colonisation of every case was the ideal method of controlling the disease, it could not be adopted in India on a wide scale.

Starting colonies, preventoria or beggars' homes, or any other anti-leprosy activities in independent India are to be considered only a means to an end and not the end in itself, as has been done in the past. The purpose of the anti-leprosy activities has to be the control of the disease and not merely relief. In view of the meagre funds at the disposal of the Foundation, it cannot deal with the leprosy problem on a nation-wide scale and its scope of work has of necessity to be of a limited nature. Evaluating the work done in the past, the Foundation decided to work with a view to control the disease and to use the new drugs and if possible, other methods of segregation to find out a practicable solution to India's leprosy problems.

Though India has about 110 colonies accommodating about 15,000 patients they are absolutely inadequate to accommodate even those who seek admission voluntarily and many more colonies are needed.

The Foundation did realise the importance of segregation and the necessity of colonies, but it was convinced that unless the standard of living improves and such measures were asso-

ciated with an active case-detecting campaign, the colonies by themselves cannot solve India's leprosy problem any day. It was as important to detect the cases in the early stages and prevent them from developing deformities, mutilation and consequent ousting from the society, as the segregation of infectious cases.

There is thus the necessity of colonies as well as of case-detecting and preventive work. But the latter has not been taken up by any agency in India. Therefore, instead of adding a few more colonies, which would not have been in any way a contribution to a solution of the problem, the Foundation decided to restrict its activities to case-detection and preventive work.

The main activity of the Foundation is therefore to start control units based on the use of oral D.D.S., early detection of cases and repeated examination of contacts. Isolation of infectious cases is to be done either at home or in the village whenever it is possible. As the approach is entirely different, detailed statistical data has to be kept and there has to be proper supervision and guidance from the centre, so that the assessment of a common method can be done from sufficient data. In view of the scientific nature of the approach and the necessity of assessment, the work in each control unit has to be carried on for a long period, and the initial expenditure on each control unit has to be sufficient to carry on activities of such a nature. With the limited funds at the disposal of the Foundation such units, therefore, could be started only at 12 places.

In addition to control units, the Foundation decided to take up a few other activities such as training of leprosy workers and subsidising one or two small research projects which dealt with study of contacts, prevention of deformities and rehabilitation of patients. The necessity of such a practical approach is appreciated by many International Leprologists and the Foundation was complimented on its bold approach to the problem in a poor country like India.

The Sixth International Congress of Leprosy held in Madrid in November 1953 has recommended: "Because of the efficacy of the new medicaments, it is reasonable to assume that these drugs will reduce considerably the period of contagiousity of the lepromatous cases. To investigate this matter, which we regard as of great importance, extensive investigations should be carried out in countries where institutional isolation is impracticable, with the aim of determining if there is any reduction of the incidence of leprosy among the contacts of lepromatous cases."

The Gandhi Memorial Leprosy Foundation is proud of having anticipated the recommendations of the International Congress and hopes to place some day the results of its work before the Congress for assessment and evaluation. Whether leprosy is controlled or not, a great deal of information will be collected and that itself may show a way for the future.

As regards the preventoria, homes for beggars, and rehabilitation colonies and some other aspects of the problem, the Foundation has not expressed any views because it is beyond their means to do anything in the matter. But my personal views in this matter may be given here in brief.

Protection of the children from exposure to an infectious case is as important as the detection of cases in the early stages, but when it comes to translating this theoretical conception into practice we have to face difficulties. After all, the infectious cases are less in number than the child contacts in the household or outside it. When isolation of the infectious cases is itself a problem, how can we deal at present with a group which outnumbers the infectious cases? Moreover the conditions in the country are not such that only the children of the patients need care. In fact, in India there are so many destitute children that even their number is not known. Apart from the social and psychological problems which arise out of starting preventoria, the funds available for anti-leprosy work are so meagre that the question of looking after children of leprosy patients

will have to be linked up with that of the other destitute children. The only advantage of preventoria is that the children who are already exposed, may be placed under observation, but the disadvantages are so many that even such children will have to be kept in general children's homes, where arrangements for their frequent examination are made. To my mind the only method of protecting children when the anti-leprosy campaign is still in the hands of voluntary agencies is, therefore, to see that they are looked after by some of the patient's relatives or to arrange for their adoption. Many childless couples can adopt such children. If social services are started for the purpose much more can be done than by starting a few preventoria. In addition, B.C.G. vaccination may help in protecting some.

The problem of beggars is too large to be discussed here or to be tackled by voluntary agencies doing anti-leprosy work, for it is a part of the beggars' problem in general, which needs to be tackled by the Government by looking after those who are already beggars and simultaneously preventing others from becoming beggars. Moreover, in looking after those beggars who are almost 'addicted' to their professional practice for a number of years, it must not be lost sight of that they have developed preference of freedom to the discipline of an assured asylum.

The leprosy workers should continue to permit the beggars to stay in the present 'bustees' (dwellings of the beggar leprosy patients usually outside the cities or town). Every case should be put on treatment, their children be protected according to the recommendations of the Sixth International Congress and the charities be diverted so that some day the problem could be tackled more scientifically.

The rehabilitation of the patients is another important aspect of anti-leprosy work. The best rehabilitation of a patient is to restore him to the society but as long as it is not possible, some alternative arrangement will have to be made. In deciding the occupation for each patient the guiding principle should

be a 'suitable job' in view of his condition rather than self-sufficiency. I believe that the present studies on deformities and their relation to occupation, will adversely affect some day the slogan of 'Self-sufficient agricultural colonies', especially in countries like India where anaesthesia of hands and feet in patients is as common as the agricultural occupation in colonies.

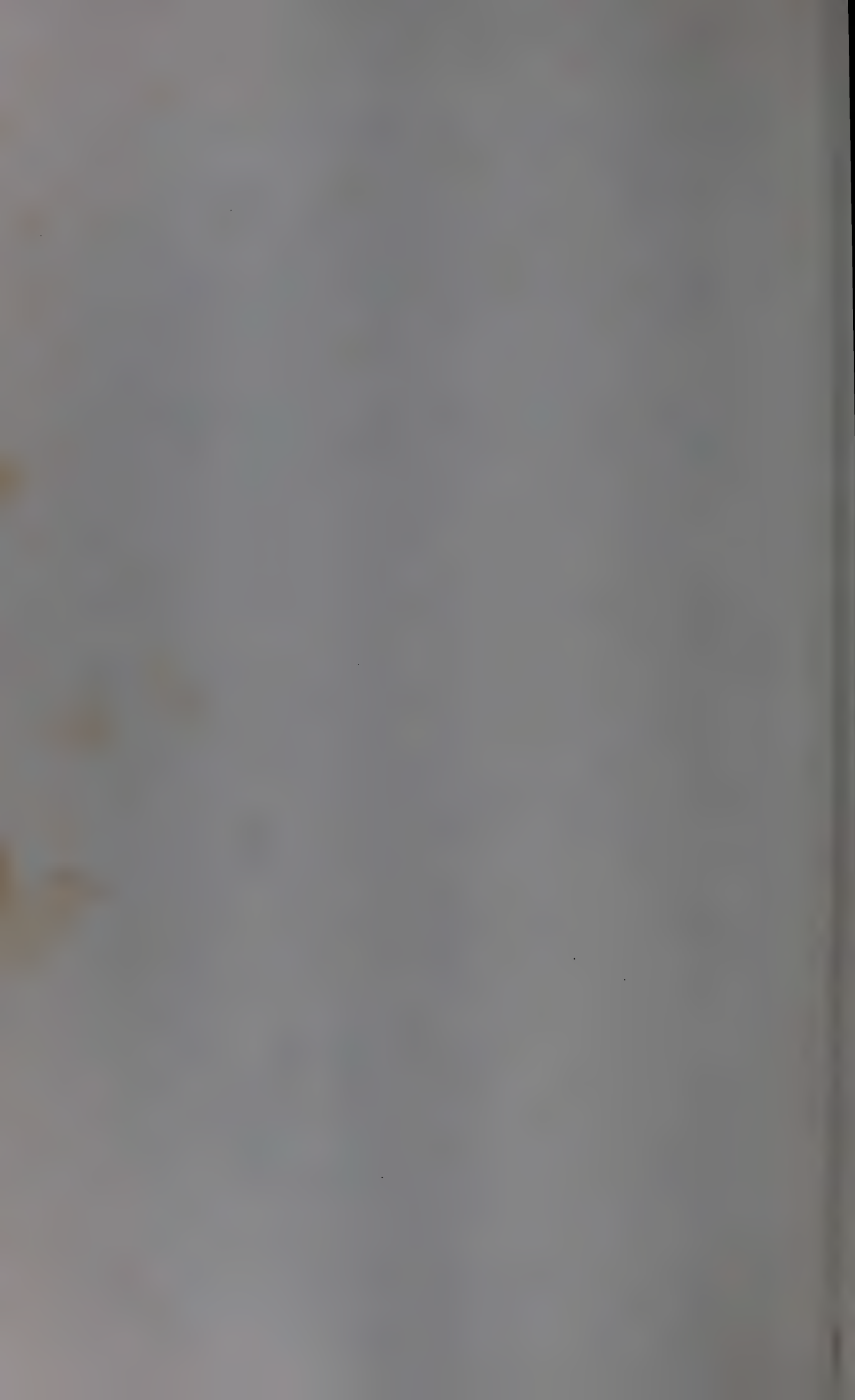
Space does not permit me to discuss any of the above problems in detail here, but suffice it to say that the leprosy problem is so much linked up with other medical and social problems that the sooner we realise it, the better it will be for the patients as well as the country. Anti-leprosy activity is primarily the function of the Government, which should be supported by voluntary anti-leprosy agencies as well as by voluntary social agencies.

I am always asked a number of questions regarding the leprosy problem and particularly the number of patients kept in isolation in the other countries. I am attaching a table to show the situation in general and the amount of expenditure incurred to maintain a patient in segregation per year. The figures are only *approximate* but they are fairly accurate for the purpose of comparison. These figures corroborate statements made elsewhere in this book.

THE END

TABULATED INFORMATION ABOUT LEPROSY IN COUNTRIES VISITED

Country	Main agency doing anti-leprosy work	Present Population of the country	Incidence 50 years ago	Present incidence per 1000 of the population	Estimated total of patients	Patients in the colonies	Expenditure in a colony per patient per year in American Dollars
U. S. A.	Government	150,000,000	Not known	0.03	5,400	400	4,000
Hawaii	"	466,000	13.0	0.98	450	330	3,500
Japan	"	80,000,000	0.65	0.25	20,000	10,000	360
Philippines	"	20,000,000	Higher than 1.0	1.0	20,000	6,000	180
Hong Kong	Partly Govt. and non-off. agencies	?	Not known	Not known	Not known	300	140
Thailand	Mainly non-off. agencies with Govt. aid.	17,000,000	"	1.2 to 3.5	20,000 to 60,000	1,600	?
India	"	356,000,000	"	4.3	1,500,000	15,000	75



About the Author



Dr. R. V. Wardekar

Shri. G. V. Mavalankar, Speaker of the Parliament and Chairman of the Gandhi Memorial Leprosy Foundation, says in the Foreword—

“After obtaining a highly merited M. D. from the Bombay University in 1944, he settled to a growing practice in Bombay which, however, he did not feel to be his vocation. He soon moved on the countryside to render service where service is greatly needed in India, among the rural masses of our people. He worked for five years at the Sevagram Hospital which combines a special rural bias with modern science in its methods of treating diseases. He is also specialised in leprosy.

By training Dr. Wardekar is a man of science, deeply imbued with its spirit of objective enquiry; and by avocation he is devoted to the relief of the poor and the ailing in rural areas. When the Gandhi Memorial Leprosy Foundation was formed he was drawn into it as its Secretary. It has been a happy choice, since the spirit of service that he brought to his ministrations of leprosy patients has helped to enhance the scope and widen the field of activities of the Foundation.”

LEPROSY IN INDIA

The table given at the end of this book, particularly the incidence of the disease per thousand of the population, reveals the truly appalling nature of the leprosy problem in India. While conditions in the other six countries are all unequal as to colonies, estimated total of patients and the money spent on each, the corresponding figures for India are sickening to contemplate. The stoutest heart might quail before them.

Every single factor in the living conditions of our people has contributed its utmost to these swollen figures—bad housing and worse sanitation, an insufficient and unbalanced diet, illiteracy and ignorance, conservatism and superstition, each one of these has been doing its worst.

This is a challenge we have got to accept if we would look our fellowmen abroad in the face. A beginning has to be made somewhere. The author of this book is convinced that our Government must fall in line with the Governments of more advanced countries, and begin to treat the leprosy problem in India as its very own. Until that happens, non-official agencies working in the field have to carry on with all the extra vigour, intelligence and tenacity they can muster.

For its part the Gandhi Memorial Leprosy Foundation has decided, for reasons which are explained in the last chapter of this book, to restrict its activities to case-detection and preventive work, to training of leprosy workers and to subsidising one or two small research projects dealing with the study of contacts, prevention of deformities and rehabilitation of patients. In coming to this decision the Foundation has actually anticipated the considered opinion of the Sixth International Congress of Leprosy held at Madrid in 1953.

The far-flung evil of leprosy in our land is a challenge to our sense of brotherhood of man. For long time to come, even when the Government has lifted on to its shoulders its own proper burden, there will still be an immense scope for private agencies in this field. Let us all do our share to assuage as far as we possibly can, the terrible sufferings of the Indian leprosy patient.

**GANDHI MEMORIAL LEPROSY FOUNDATION, WARDHA,
M.P. (INDIA)**